Interviews

By Robert P. Nixon

Jobbers, Distributors, Dealers, and Servicemen See Big Year Ahead

Winter Ice Doesn't Bother Servicemen

Just a few doors up the famed Michigan Avenue from the Auburn factory branch (which can't repair broken tail lights in less than half a day) is H. W. Blythe Co., jobber of refrigeration parts and supplies. Even in the ice of January Chicago several servicemen called at the counter—one to get a valve of some kind, another to pick up ten pounds of sulphur dioxide, and a couple of others to place orders for items to be delivered to their shops.

M. C. Guan, in charge of the office during Mr. Blythe's absence, reports business steadily improving during the past year. A substantial share of the local business is done at the counter and by telephone—deliveries keep the company truck on the go most of the time.

Out-of-town orders account for something over half the volume of business, however, and these come in from all over the Mid-west, including a fair share of Texas business.

In the twenties Mr. Blythe did a good business in auto bumpers, and still maintains a separate company in the building for this line.

However, with the tendency toward an individual style of bumper for each make of car, and with dealers handling much better stocks than formerly, this business was about bumped out of any chance for profit several years ago. Refrigeration supplies have proved a good substitute, says Mr. Guan, and becoming well established now with the trade, the prospects for 1936 seem bright.

* * *

Spangler Sales Show Big Gain Over '34

At 3331 Market St., St. Louis, is the Spangler Co., Inc., wholesalers of refrigeration and air-conditioning supplies in southern Missouri and southern Illinois. Manager R. H. Spangler was out contacting the trade on the day I called.

I talked with H. F. Brockgreitens, who stated that business in 1935 showed a big gain over '34 in most of the lines they handle. In the stock room Fedders valves, Aluminum Goods Mfg. Co. ice cube trays, and a large supply of Wolverine tubing and Gates belts were most noticeable.

Sales of air-conditioning supplies have been comparatively small, according to Mr. Brockgreitens, but have shown encouraging growth during the past year. He looks to air conditioning to provide a very worthwhile field for the parts jobber when the industry has progressed further.

Their catalog is made up in loose-leaf form, so that new items may be conveniently added at any time. More business is received from distributors and dealers than from independent service men, and the bulk of the sales are accounted for in orders through the mail and by telephone.

They do a good business over the counter, but most of the sales there are for the smaller individual items. In line with population and market figures, about 60% of the total sales volume is concentrated in St. Louis.

Mr. Brockgreitens had found servicemen quite interested in ELECTRIC REFRIGERATION NEWS, but complained of copies becoming thumb-worn from the use of over-the-counter readers. He predicted a good number of sales of the MASTER SERVICE MANUAL among Spangler customers.

* * *

FHA a Great Success In St. Louis

The Arthur R. Lindburg Co. at Grand and Lindell, combines Studebaker car sales with the distributorship for Westinghouse appliances. And with modern up-to-the-minute showrooms and an alert, clean-cut organization, it combines the two very attractively.

Dean Whiteman, Assistant Sales Mgr. gives much credit to FHA for the success of appliance sales last year. What does *he* think about it?

"Fine, handled paper with four banks here. Now only with the Southwestern, because they are nearby and give more convenient service."

And about repossessions—of all the refrigerator paper handled by Southwestern, only *two* refrigerators have been repossessed. Mr. Whiteman attributes this to picking good risks. 36-month pay amounts to no more than the ice bill in many cases, so no excuse for defaults.

Speaking of other appliances, Mr. Whiteman had been told their volume in oil burners was best in the city for '35. "Still doesn't mean much," he added. "Oil burners have been a dead issue in St. Louis for several years."

About dishwashers—prices too high. Same as with air conditioning. Not justified by production cost and not consistent with a substantial volume of business.

Both will sell in quantity, but only after more time for putting the idea across, and then—*only* with lower prices.

Mr. Whiteman says the Westinghouse five-year service guarantee is a "great selling point." The service guarantee may of course be left off, and a $5.00 deduction allowed to the customer. However, Mr. Whiteman claims he has never had this question to come up—all buyers seem to like this protection against repair costs.

The Lindburg Co. handles the servicing under guarantee for all Westinghouse units in St. Louis. They also handle servicing under guarantee for units which are brought to St. Louis from elsewhere — conveniently, and with no delay for the owner.

* * *

Harry Alter Branch Finds Sales Improving

The St. Louis branch of the Harry Alter Co. is located at 2315 Washington Street. It was opened during August of '35 to serve the Southwest trade, and gets most business from out-of-town, principally from the states of Missouri, Oklahoma, Arkansas, Kansas, and Texas. The first catalog for the new store was sent out about January 1.

Mr. Anthony, manager of the branch, feels that they have gotten a good share of the business since opening, considering the strong competition already established in St. Louis. Now established, he expects the coming season to be a real humdinger. Distributor and dealer business compares with that from independent service outfits on about a 50-50 basis.

Air conditioning business not much yet. Later on, yes, but so far it's been in the small-fry class.

In regard to the parts jobbing business as a whole, Mr. Anthony warned, too many new and inexperienced firms are taking a try at it. Unless they are prepared with a background of experience, and are able to keep an adequate stock, they accomplish nothing for themselves or for anyone else, and merely "muddy the water."

Servicemen like the NEWS, says Mr. Anthony, and usually take up most of his weekly counter stock. Occasionally one becomes engrossed in a copy at the counter, and if not reminded, forgets the charge when he takes it along to finish an item which has caught his interest.

But Mr. Anthony is not discouraged by the problems of handling copies of the NEWS, and believes the service groups will also offer an enthusistic market for the MASTER SERVICE MANUAL.

* * *

Former Dealer Uncovers Profitable New Work

Sam Kennard, "Contracting—Engineers; Refrigeration and Air Conditioning," 3333 Market Street in St. Louis, moved next door to the Spangler Co. so he wouldn't have to go across town for parts and supplies, but has no business connection with this jobber.

Mr. Kennard was formerly a Norge dealer in St. Louis but found dealerships overcrowded, good salesmen hard to get, and price-cutting wars to make business unprofitable.

In March of last year he began servicing work. During the winter he has found a profitable business in heating and ventilating work. In this work, he handles the contract for installation only, the actual equipment being sold by dealers.

At the time of my call he was working on three residential installations, one of which was a very large one. All three are so constructed, stated Mr. Kennard, that cooling units may be added to the heating, humidifying, and ventilation equipment now being installed, to give year-around air conditioning service.

Mr. Kennard has found the FHA plan a great help to business, and hopes that it will be continued.

* * *

Texas Servicemen Keep On the Go

This jobbing of automotive and refrigeration parts share the interests of The Electromotive Co. in Dallas.

With a relatively small organization there, they handle orders for almost every point between Shreveport, La., and El Paso, Texas. In addition they have a local trade which has included at one time or another "practically every distributor and serviceman in Dallas," avers Mr. C. E. Bowen, manager. Frigidaire and General Electric distributors are rather regular customers.

He would not chance a guess as to whether local or out-of-town orders brought the most business, or as to how the orders were divided between distributors and dealers and independent service organizations.

As we talked, a serviceman came in,—rather old trousers and shirt. leather jacket, cheerful face, a young man seemingly on the job and interested in it.

"Give me a thermostatic expansion valve."

"What size?"

Couldn't catch his answer.

Clerk got it in about half a minute, wrote an order in less time. The customer signed it.

"How's business?"

"Not too good—not very bad." Then, "Guess it's pretty good at that."

And he was on his way. He had been in the store less than two minutes. They don't waste much time in Texas.

* * *

T. G. Beckett Co. Adds Refrigeration Line

For thirty years T. G. Beckett has been in the electrical supplies business. At the corner of Griffin and Broom Sts., Dallas, he has the main office and warehouse for Beckett Electric Co., Inc., wholesalers of electrical supplies and, since early last spring, of refrigeration parts and supplies as well.

Mr. Beckett travels six salesmen, and distributed four catalogs last year to his mailing list of about 2700. Among the refrigeration lines handled by this jobber are Imperial fittings, Mayson valves, Virginia Smelting refrigerants, and Rotary Seal replacement units.

* * *

Independent Servicemen Look for Parts

In El Paso we got a unique viewpoint on *how the independent serviceman can obtain the parts he needs for immediate use* when there are no local jobbers with warehouse stocks. At Gem Electric Co., 612 E. San Antonio St., which handles commercial servicing only, a cordial lady in charge of the office explained the local situation. Most of the servicing is done by departments connected with recognized dealerships.

When independents have a job which requires a part which they haven't already on hand, they buy from the authorized distributors,—if they can. And it all depends on which clerks are at the counter. If he is a good fellow, then O. K. But if not, then the serviceman is just out of luck.

* * *

Banks Paint Store Serves Big Territory

George A. Banks of the Banks Paint Store keeps five salesmen busy selling Kelvinators and Electrolux, and claims 80 of the approximate 300 units sold by Globe, Arizona dealers last year.

Mr. Banks doesn't say "sold *in* Globe," for his sales cover a territory of approximately 50 by 150 miles. Also handles servicing work throughout this district.

It's pretty tough, too, crossing four mountains, a half dozen creeks, and a good share of it over what should be for wagon use only. In wet weather, he sometimes decides that the sale just isn't worth it, since there's always the chance of getting stuck and losing (or ruining) the box.

"I'll send some pictures first time I get a chance," promised Mr. Banks, "showing what *deliveries* really can mean."

The store carries electrical supplies of all kinds, in addition to a rather complete line of paints for a town the size of Globe. Business in '35 was good. By the time refrigeration season began to wane, radio business picked up to beat the band; it kept going strong right through to the first of the year and there was really no such thing as a winter slump. Philco is Mr. Banks' radio line, and he thinks it's great.

Last year the copper mines began to open up, and that helped business around Globe. They are looking forward to more re-openings this year, and a corresponding boost for refrigerator sales.

Mr. Banks thinks FHA a very satisfactory plan—but *not* for him. He already had a financing plan which was working out all right, and FHA merely put the other dealers on a par with him there.

Only two have failed to live up to their FHA agreements, and neither of these cases has involved repossession. Choosing good credit risks makes the plan 100%, thinks Mr. Banks.

Electrolux doesn't sell much yet in Globe. Natural gas, which they are expecting before long, will bring that in.

Mr. Banks likes the new Kelvinator line mighty well, but thinks the five year guarantee too long. "One year would be better," he stated. "The five-year guarantee places too great a burden on the dealer." He seemed to be thinking of that 50 by 150 mile territory.

The operating cost certificate is the number one sales appeal as far as Mr. Banks is concerned. "Great selling point," he says, and he expects it to help close a lot of sales this year.

* * *

No Repossessions in Globe, Arizona

J. Dee Matlock, manager of Matlock Electric Supply, reports business picking up during '35, and credits the increase to the help of FHA and the re-opening of copper mines.

Every one of the copper mines was closed down during '31 and '32, but conditions have gradually improved, and with the opening of "Inspiration," one of the larger mines in that section, things are beginning to look brighter.

By far the majority of sales were under the FHA plan, and as yet there's not been a single repossession in Globe.

Matlock Electric handles "Everything Electrical"—refrigerators, washers, ranges, heaters (oil burning as well as electric), radios, tubes, Mazda lamps, and accessories.

Though business is "picking-up," it's still none too good, so the key to Mr. Matlock's best enthusiasm is in Globe's perfect climate and the scenery of all the surrounding territory—of which he may be justly proud.

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TEN CENTS PER COPY

125,400 Household Units Shipped To Distributors in January

New Record Confirms Early Predictions Of Executives

DETROIT—Breaking all previously established marks for the month, manufacturers of household electric refrigerators shipped 125,400 units to distributors and dealers throughout the world during January, according to estimates compiled by ELECTRIC REFRIGERATION NEWS.

Sales for the year's first month indicated that leading industry executives were not merely making conversation when they predicted that 1936 would be the best year the electric refrigeration business has ever known. Shipment totals indicated, also, that manufacturers were, as last year, prepared well in advance for any buying rush.

This year's January figure is 21% greater than the 103,500 units reported sold in January of last year, and 3.3 times the 38,000 sold in January of 1934. It is also 4,900 units better than the total of 120,500 sold in January and February of 1934, and approximately 3.1 times the 39,400 units sold in January, 1932, which prior to last year had held the high first-month mark.

Reports from the Household Refrigeration Section of the Refrigeration Division of National Electrical Manufacturers Association show that 14 reporting manufacturers shipped a total of 116,630 units during the month to distributors and dealers throughout the world, for the best January in

(*Concluded on Page 20, Column 3*)

Kelvinator Drafts Commercial Drive

DETROIT—Kelvinator Corp. will build its 1936 sales and advertising program on the premise of a $100,000,000 market for commercial refrigeration equipment, including automatic heating and air conditioning, declares J. A. Harlan, commercial sales manager for Kelvinator.

"Air conditioning alone offers a market possibility of at least 200% more business than last year," Mr. Harlan stated. "Restaurants, hotels, theaters, stores, beauty parlors, funeral homes, dance halls, and auditoriums will be the market for most of the commercial installations."

To take advantage of this market, Kelvinator will direct its 1936 air-conditioning advertising to business men, with the copy theme that "there is a profit in air conditioning."

Mr. Harlan rates standard commercial equipment as the second largest market for commercial refrigeration during the coming year. He estimates that there will be a market for at least $25,000,000 worth, at factory prices, of standard commercial equipment. Kelvinator will use its "exact selection method" of survey, selection of proper type of equipment, pricing, installation, and servicing in developing this market.

Backed by a 53% sales increase over

(*Concluded on Page 2, Column 1*)

19 Distributors Appointed For Leonard Line

DETROIT—Nineteen new distributors were appointed by Leonard Refrigerator Co. during the first two months of the new year, according to factory officials.

New distributors are: Colen-Gruhn Co., New York City; Shapiro Sporting Goods Co., Newburgh, N. Y.; Beaucaire, Inc., Rochester, N. Y.; Morris Distributing Co., Syracuse, N. Y.; J. B. Strauss Co., Buffalo; Capital City Distributing Co., Springfield, Mass.; Arnold Wholesale Co., Cleveland; Persinger Supply Co., Williamson, W. Va.

Otis Hidden Co., Louisville, Ky.; Schuster Electric Co., Cincinnati; Cloud Brothers, South Bend, Ind.; Taylor Electric Co., Milwaukee, Wis.; Fargo Paint & Glass Co., Fargo, N. D.; Byck Electric Co., Savannah, Ga.; Peaslee Gaulhart Co., Dallas; Graybar Electric Co., Salt Lake City; Mills-Morris Co., Little Rock, Ark.; Mathews Furniture Co., Montgomery, Ala.; Stoehr & Fister, Inc., Scranton, Pa.

8 Models Included in Landers, Frary & Clark Line

NEW BRITAIN, Conn.—Landers, Frary & Clark is presenting for 1936 a line of Universal electric household refrigerators in eight models, ranging from 4 to 8-cu. ft. net storage capacity, and incorporating many utility and convenience features.

The company is planning to distribute the refrigerators on a nation-wide scale, says Bret Neece, sales manager, motor appliance division.

The Seeger-made cabinets used in this year's Universal line are semi-streamlined in contour, with paneled front and semi-concealed chromium-plated hardware. Standard models are finished in Dulux, while the three models of the deluxe line are finished in porcelain. Interiors are of one-piece, acid-resisting porcelain.

All models have automatic interior electric light; all but the smallest

(*Concluded on Page 20, Column 1*)

Brunner Joins Commercial Section of Nema

NEW YORK CITY—Brunner Mfg. Co., Utica, N. Y., has recently become affiliated with the Commercial Refrigeration Section of the Refrigeration Division of National Electrical Manufacturers Association. George L. Brunner, president, is its executive representative.

The company, while not previously a member of the association, had for some time regularly reported its monthly sales of commercial condensing units to Nema's Commercial Refrigeration Section.

New Grunow Plan Filed with Court

CHICAGO—General Household Utilities Co., manufacturer of Grunow refrigerators and radios, last Saturday filed an amended plan of reorganization with the U. S. District Court here which would effect changes and modifications in the original plan proposed Dec. 24, 1935. The court set Friday, March 13, as the date of hearing on the amended plan.

The more important changes and modifications to be effected are as follows:

"(1) There will be due and payable upon consummation of the amended plan approximately $163,000.00 on account of manufacturer's excise taxes accrued prior to the institution of the reorganization proceedings and unpaid manufacturer's excise taxes accrued subsequent to the institution of the reorganization proceedings, and prior to March 1, 1936, estimated to amount to approximately $35,000. At the time of the submission of the original plan, it was contemplated that it would be necessary that all of these taxes be paid in full at or

(*Concluded on Page 2, Column 3*)

22,000 Salesmen Go To 38 Meetings Of Frigidaire

DAYTON—Frigidaire's three convention crews, returning to Dayton this week after contacting the national sales organization coast to coast, reported a total attendance at 38 conventions of more than 22,000 dealers, salesmen, department store, furniture, and utility executives.

The attendance total is the greatest ever attained at Frigidaire sales meetings, declares Frank R. Pierce, manager, household division, and general chairman of the conventions.

"New attendance records were rolled up of which New York and Chicago totals are typical," said Mr. Pierce.

"Last year, one convention meeting was held in New York for approximately 1,500 persons—all the convention room would hold. This year, two meetings to a total of more than 2,500 persons were held.

"In Chicago, one meeting last year drew 1,200 people. This year two meetings drew more than 2,000."

SPECIFICATIONS

Comparative specifications for all models of all makes of household electric refrigerators are now being collected for publication in an early issue of the NEWS.

Abbreviated data on the 1936 lines of a number of companies has already been published in previous issues as announcements were released.

Manufacturers are now being asked to furnish complete details regarding construction, materials, and parts, and the tabulations will be published in one of the April issues.

The exact date of this issue has not been definitely determined, but announcement will be made as quickly as possible. In the meantime, readers who want to secure extra copies of the "Specifications Issue" should enter their orders at once.

Each year the demand for extra copies of the specifications issue has grown, and each year the entire available supply has been sold out, leaving many orders unfilled.

On account of the expense of publishing this issue, and the clerical work involved in handling extra copy orders, it will be necessary to charge *25 cents per copy* for the "Specifications Issue." This rate will apply to all quantities.

Twenty-five cent coin cards will be provided for distribution among dealer and distributor organizations, so that papers may be mailed directly to individual addresses, if desired.

In ordering extra copies, *please send check, cash, or stamps with order,* since it is impracticable for us to incur the additional expense of setting up charge accounts and issuing invoices for single-copy sales. We are anxious to render the best possible service to the industry, and we earnestly ask your cooperation in avoiding unnecessary complications which delay the prompt handling of hundreds of these small transactions.

Prices, Guarantees & Trade-Ins Are Chief Dept. Store Problems

Views at G-E Clinic Are Recorded by Applause Meter

By Phil B. Redeker

CLEVELAND, March 10, 1936 (Special Wire to ELECTRIC REFRIGERATION NEWS)—In debating 1936 electric refrigerator selling problems in the open forum provided by the General Electric "merchandising clinic" opening here today, 150 merchandise managers of department store major appliance departments indicated that price cutting, guarantees, trade-ins, and claims of operating efficiency are the principal problems confronting them this year.

Herschel Lutes of the J. L. Hudson Co. store in Detroit, and Ralph Cameron, assistant sales manager of the specialty appliance division of General Electric, co-chairmanned today's session. Following a series of talks on merchandising methods, an open forum was declared at which the department store men "let down their hair" and discussed their problems openly and freely.

Among the very complete arrangements which G-E staff provided for the meeting was an "applause meter" which recorded the opinions of the merchandise managers when votes were taken on how some of the problems should be handled.

Many of the department store men vigorously attacked the chiseling tactics of what they called "back alley" dealers, and declared that they were asking manufacturers and distributors to clean up such practices.

A number of them declared that they were cutting down the number of lines which they were carrying, in

(*Concluded on Page 2, Column 5*)

Kelvinator Shipments For February Total 20,572 Units

DETROIT—Kelvinator Corp. shipped 20,572 household units during February of this year as compared to the 9,957 units shipped from the Detroit plant during February last year, an increase of 107% reports V. J. McIntyre, domestic sales manager.

End-of-the-month records, he also said, showed unfilled orders substantially greater than those of a year ago.

62,885 Sold in 5 Months

DETROIT—With a total of 62,885 household refrigeration units shipped from Oct. 1, 1935, to Feb. 29 of this year, Kelvinator household unit shipments show a 39% increase for the last five months over the record for the same fiscal period a year ago, reports V. J. McIntyre, domestic sales manager, Kelvinator Corp.

Unfilled orders for household Kelvinators are well above those of this same date last year, declares Mr. McIntyre.

Westinghouse Conditioning Moved to Springfield

SPRINGFIELD, Mass. — Westinghouse Electric & Mfg. Co. is transferring all of its air-conditioning production to its Springfield plant, and will make this the center of its air-conditioning activities, it was learned last week.

A space approximately 1,000 feet long in one of the local plant buildings is being fitted with machinery for the manufacture of all Westinghouse air-conditioning equipment, from the room-size Mobilaire units to the company's large 20-ton jobs. The department is expected to be in full operation by May 1.

Milwaukee Bureau Begins Campaign

MILWAUKEE—Aiming for 10,000 electric refrigerator sales in Milwaukee during 1936, the recently formed Milwaukee Electric Refrigeration Bureau has inaugurated a cooperative advertising campaign planned to cover a six-month period, involving the expenditure of a minimum of $15,000, with a possible expenditure of $25,000.

Main feature of the campaign is the series of electric refrigeration advertisements, educational or institutional in nature, which are being placed in three local newspapers, with the initial copy appearing this week.

Funds permitting, billboards may be used. Contests and "cold cookery" schools may be included in the plan.

This activity, sponsored by Bureau members in cooperation with the Milwaukee Electric Railway & Light Co., is representative of the entire

(*Concluded on Page 2, Column 4*)

Ward Lowers Prices On 2 New Models

CHICAGO—With its smaller-size models scaled down considerably in price, and two larger capacity models added to the deluxe series, Montgomery Ward & Co. has put on the market this year a line of household electric refrigerators in six sizes, ranging from 4.19 to 12-cu. ft. net capacity.

Ward's smallest cabinet of 4.19-cu. ft. size is priced at $89.95, the same as last year's model in that capacity. Other models in the standard series, however, have been marked down considerably.

Model 550, for example, a unit of 5.65-cu. ft. capacity, has been reduced from $107.95, its 1935 price, to $99.95; and a new size, model 6610 of 6.33-cu. ft. capacity is priced at $109.95. Last year's comparable model, L-6500 of 6.35-cu. ft. capacity sold for $144.95.

The company's deluxe line of refrigerators numbers four models, the first, model 6625, being identical with model 6610 except that it has an exterior finish of porcelain, and a list price of $129.95, $20 higher than its Dulux-finished twin. Model 6620 of 6.73-cu. ft. capacity is priced at $149.95, and the two new larger models, 6820 of 8.8-cu. ft. capacity, and 6120 of 12-cu. ft. capacity at $164.95 and $249.95, respectively.

Cabinets in this year's Ward line

(*Concluded on Page 2, Column 4*)

Kunkler Joins Executive Staff of Stewart-Warner

CHICAGO — Stewart-Warner Corp. has appointed Homer K. Kunkler, former assistant sales manager of General Household Utilities Co., as assistant to F. A. Hiter, vice-president and general sales manager.

Previous to his connection with General Household Utilities Co., Mr. Kunkler was sales manager of U. S. Radio & Television Corp.

The appointment of Mr. Kunkler and others at this time has been necessitated, according to Stewart-Warner officials, by the fact that S-W refrigeration sales during the first month of this year were 155 per cent higher than during January of 1935, and that figures for the first two weeks of February were 200 per cent of last February's figures.

George Taubeneck Finds That San Francisco Refrigeration Business Is 'Clean and Clear'

And here are three of the hosts who helped to make his visit enjoyable. Left to right: Elliot M. Epsteen, secretary of the Domestic Refrigeration Wholesalers Association of Northern California; C. W. Hartenfels, president of Electric Appliances, Inc., General Electric distributor; and J. L. Conover, Kelvinator district manager for California and Arizona. Story by the editor and interviews in San Francisco are on pages 4 and 5 of this issue. More San Francisco reports and an account of the editor's ocean trip to Honolulu, will be published next week. Interviews with Los Angeles manufacturers by Robert P. Nixon appear on pages 6 and 7.

Sales Idea of the Week

By V. E. (Sam) Vining

How about using a little romance in your sales story?

There is an interesting story back of everything you sell. And all the world loves a story—and a story teller.

Find that story. If for no other reason, it will add to the pride of possession.

I remember when my grandfather bought his first wood burning cook stove, with the oven underneath.

He took every opportunity of displaying it to the neighbors. And at the close of each demonstration he always let the oven door down and stood on it, in exact imitation of the clerk who sold it to him.

I don't remember Grandmother ever standing on the oven door to do her cooking, but she was as proud of the demonstration as her spouse.

That was Grandpa.

Some months ago I bought a string of inexpensive beads. A wise salesman told me the story of their manufacture and importation. With the gift, I told the story to my wife—and I have heard her repeat it many times.

You figure the difference between Grandpa and me.

Every home has its quota of possessions valued for the story built around them—because they give pleasure beyond utility.

But, you say, you sell prosaic things:

Maybe:

Tomatoes were once considered rank poison; potato blossoms were once worn as flowers by the nobility of France by Royal Order of the King; and Julius Caesar made his legionnaires shave because, in battle, barbarians grabbed them by the beard before swinging at the neck—romance at every turn—romance in every business.

Romance—make it pay dividends.

Kelvinator Plans Advertising Campaign For Commercial Refrigeration

(*Concluded from Page 1, Column 1*)

1934 in the oil burner division of the automatic heating business last year, representing $25,500,000 in total retail business, Kelvinator will put on the most complete program of advertising for its conversion-type and boiler-burner automatic heating equipment that it has ever undertaken, says Mr. Harlan.

Other commercial refrigeration equipment, such as water coolers and beverage coolers, will present a market of approximately $2,500,000 each at factory prices, Mr. Harlan estimates.

A definite selling routine has been adopted by the company and will be divided into the following steps: locating the prospect, approaching the prospect, discovery of motive of purchase, mechanical survey of premises to discover exact requirements of equipment, selection and pricing of equipment by applications engineers, checking credit of customer, closing of the sale, and installation and servicing.

Eight books have been issued by the company, one for each branch of the commercial refrigeration market, giving the essential facts about every Kelvinator commercial product on the market, the market for each type of equipment, and a complete selling plan. The books cover: standard commercial, air conditioning, room cooling, water cooling, beverage cooling, milk cooling, automatic heating, and ice cream cabinets.

Grunow Amends Plan Of Reorganization

(*Concluded from Page 1, Column 2*)

prior to consummation of the plan.

"However, the Treasury Department has agreed to fund the major portion of said taxes and the amended plan provides that said taxes shall be paid as follows: $50,000 on consummation of the plan, and the balance in equal quarterly instalments of $10,000, with interest at the rate of 6% per annum, payable annually.

"The deferred instalments of said taxes, together with the interest thereon, will be secured by a second mortgage on the real estate of the debtor located at Marion, Ind. By virtue of this change the current position of the debtor will be materially improved.

"(2) The original plan made provision for a loan of $600,000 by the Reconstruction Finance Corp., to be secured by a first mortgage on the real estate of the debtor at Marion, Ind., and the machinery, fixtures, and equipment of the debtor located in its plants at Marion, Ind., and at Chicago.

"The original plan also made reference to a revolving fund of $400,000 to be made available by the RFC, which would be secured by the pledge of current accounts receivable. The resolutions of the executive committee and board of directors of the RFC and the amended plan provide that the RFC will loan the debtor the sum of $1,000,000 to be evidenced by the note of the debtor in like amount.

"The note will bear interest at the rate of 5% per annum, payable semi-annually. Of the proceeds of the loan, $600,000 will be advanced against (a) a first mortgage or mortgages on all real estate, buildings, fixtures, furniture, machinery, and equipment owned by the debtor; (b) assignment or mortgage of all debtor's domestic patents, patent applications, copyrights, trade-marks and trade-names, and all licenses except such as are by their terms non-assignable; and (c) the pledge or assignment by W. C. Grunow of certain personal securities of Mr. Grunow, of a value of not less than $300,000. Payment of the note will be guaranteed by W. C. Grunow.

"Under the amended plan the sum of $400,000 originally contemplated to be in the form of a revolving fund, now constitutes part of the first mortgage loan to be made by the RFC and will therefore be a deferred rather than a current liability.

"The amended plan will become effective upon its confirmation by the court pursuant to the provisions of Section 77B of the Bankruptcy Act as amended. In order to secure such confirmation, it is necessary that there be filed with the court acceptances of the amended plan executed by or on behalf of two thirds (⅔) of the claims of creditors of each class whose claims may be affected by the amended plan and by the holders of a majority of the outstanding shares of the common stock of the debtor.

"Acceptances of the original plan heretofore filed constitute acceptances of the amended plan unless (a) the court shall enter an order finding that the modifications of said original plan effected by the amended plan are materially adverse to the interests of creditors or stockholders of the debtor and permitting the withdrawal of such acceptances and, (b) such acceptances are withdrawn within the time specified in such order."

Two Larger Models Added to Montgomery Ward's Deluxe Line for 1936

(*Concluded from Page 1, Column 5*)

have been completely redesigned, with the exception of the 4 and 5-cu. ft. models in the standard series. Exterior lines are smoothly streamlined, with ebony recessed base, flush with the floor in front and arched on the sides for underneath cleaning.

Name plate is set high on the cabinet door, and beneath it are two parallel grooves, running down the cabinet front clear to the base.

Door latch on the deluxe models is of the bar push-action type, similar to that used on deluxe units of the Fairbanks-Morse line. Exterior finish on all models, with the exception of the deluxe 6.33-cu. ft. size, is in Dulux. Interiors are of one-piece acid-resisting porcelain.

Number of gadgets on the line has also been increased this year, especially in the deluxe models. These include twin interior lights, which turn out automatically when the cabinet door closes; an adjustable "Frosto-Storage" tray which folds down to provide extra space for cold storage of meats, ice cubes, or beverages; twin hydrated storage chests, on the bottom shelf of the refrigerator; patented automatic ice-tray release; twin lift shelves, on either side of the freezing compartment, which fold back for storage of tall bottles; a split-section shelf, half of which can be taken out to give storage room for bottles, watermelons, or roasts; and a folding rearranging shelf, on the interior of the cabinet door. All shelves are of the diamond-grid, flat-surface type.

Freezing compartment has an extra fast-freezing shelf, claimed to freeze ice cubes in 90 minutes; twin cocktail ice trays permit removal of just a few cubes at a time without disturbing the larger trays. Some of the ice trays have rubber grids, for easier removal of cubes.

Models in the deluxe line have twin-cylinder reciprocating type compressors; those in the standard line are powered by a single-cylinder unit. Evaporator doors are provided on all models except the 4-cu. ft .size.

Cabinets in the standard series differ from those in the deluxe line in that they have paneled fronts, with a single decorative bead running down the cabinet, under the name-plate. Automatic interior light, easy-out ice tray release, fast-freezing compartment, and removable bar-type shelves are the principal convenience features of these units.

Montgomery Ward Key Specifications

Model No.	Storage Capacity Cu. Ft.	Shelf Area Sq. Ft.	No. of Ice Trays	No. of Cubes	Lbs. of Ice	Exterior Dimensions—Height	Width	Depth
400	4.19	7½	3	54	4	50¼	23⅞	20½
550	5.65	11	3	63	5	53¼	27⅜	23½
6610	6.33	13	3	84	6	55¾	30	25
6625	6.33	13	3	84	6	....	....	....
6620	6.73	14	5	90	8	58	30	23¼
6820	8.8	19	7	128	13¼	62	33	23⅜
6120	12.0	26	7	148	15½	62	42½	22¾

Milwaukee Dealers Plan Sales Drive

(*Concluded from Page 1, Column 4*)

electric refrigeration selling set-up in Milwaukee, since the bureau is composed of all distributors and their dealers, in addition to exclusive brand dealers in this city.

The Milwaukee Electric Railway & Light Co. is contributing half of the money to operate the campaign. Frank W. Gruesel, head of the bureau, gives the following details of the methods by which funds for the campaign's operation are being raised.

For every refrigerator sold in the city, $2.50 will be paid into the promotional appropriation. Of this, the utility will pay $1.25, and the remainder will be jointly paid by the distributor and dealer.

In addition to this major feature of the campaign, the Bureau will sponsor other promotional activities, among them billboard advertising, contests, and cold cookery schools, if the advertising appropriations are sufficient to cover the costs of these activities.

Direction of the Bureau, which met Feb. 26, at the Knickerbocker hotel here, is in the hands of F. W. Greusel of Maurer-Greusel Co., manager; Henry Czeh, Westinghouse Electric Supply Co., treasurer; and the following executive committee: A. Van Antwerpen, Radio Specialty Co.; Elmer Stocker, The Milwaukee Electric Railway & Light Co.; and Henry Czeh.

Member companies comprising the Bureau include: Morley-Murphy Co., Radio Specialty Co., Frankfurth Hardware Co., Frigidaire Corp., Maurer-Greusel Co., Westinghouse Electric Supply Co., Chas. E. Turnock Co., Lappin Electric Co., E. H. Schaefer Co., Badger Refrigeration & Engineering Co., Shadbolt & Boyd Co., Taylor Electric Co., General Electric Supply Corp., J. J. Koepsell Co., Sears, Roebuck & Co., J. J. Dougherty Co.

Dept. Store Men Favor 1-Year Guarantee

(*Concluded from Page 1, Column 1*)

some cases because the distributors wouldn't keep their dealers in line.

In voting on the matter of guarantees, a majority of the department store executives were found to favor a straight one-year guarantee, but a substantial minority voted for service warranties of five years or longer.

When the subject of manufacturers' claims of low operating cost came up before the meeting, A. M. "Mike" Sweeney, sales manager of the G-E specialty appliance sales division, asked the audience whether they thought G-E should mention that they can claim improved performance at lower operating cost in their 1936 advertising.

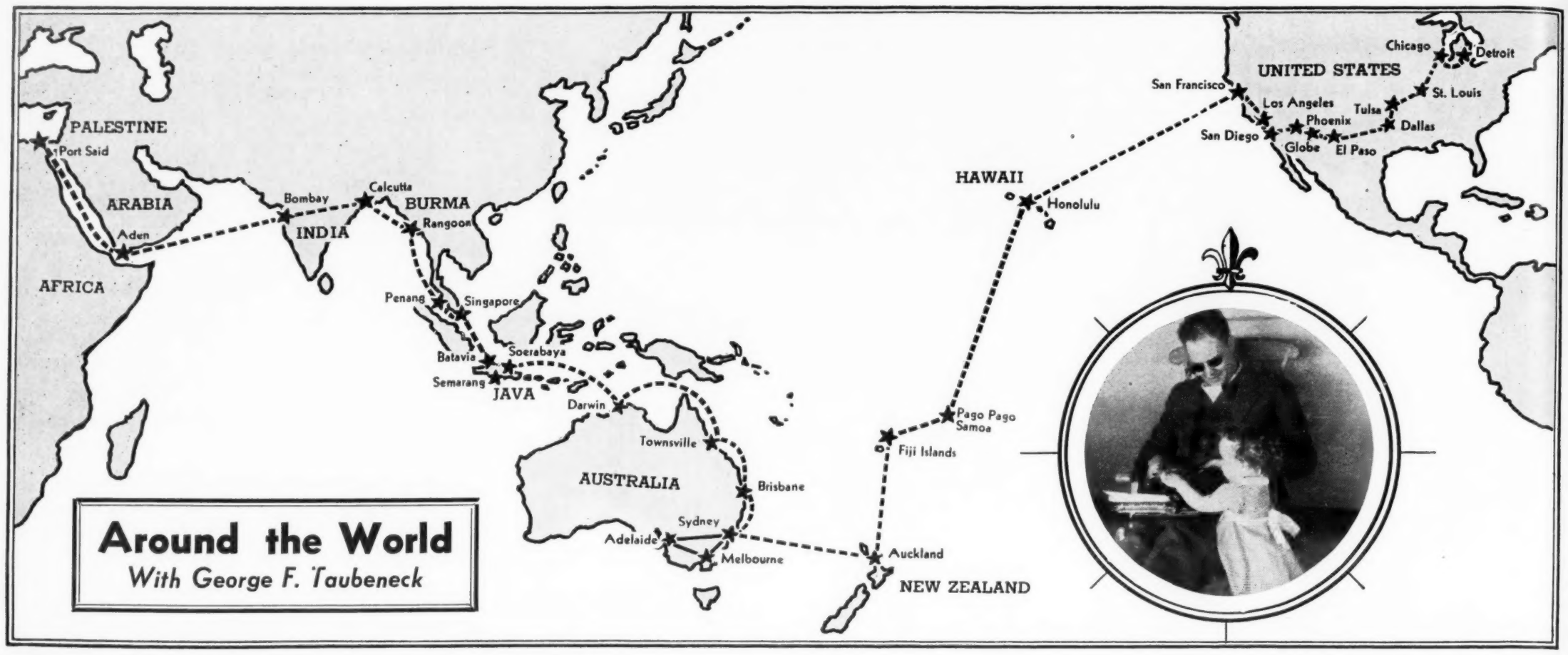
The department store men voted that they approved mention of low operating cost in advertising, after they heard arguments to the effect that it was a way of combatting "price selling."

Problem of trade-ins brought forth the greatest amount of discussion from the merchandise managers. Out of the welter of argument it developed that since people trade in refrigerators because they no longer work, used refrigerators are practically a total loss, and thus work a hardship on the retailer.

Two definite proposals were advanced for a solution of the trade-in problem:

(1) That a committee of department store men be appointed to call on the manufacturers to establish definite trade-in values on used electric refrigerators, and to set up a system of control on advertising of trade-in allowances.

(2) That the margins granted department stores be greater, so that a reasonable profit could be realized when trade-ins were a factor in the sale.



A BRIEF CABLE MESSAGE from George Taubeneck last Friday announced his departure from Sydney, Australia, according to schedule. He reports a trip to Melbourne but since no mention was made of Adelaide we assume that he found it impossible to visit that city.

On March 7 he sailed from Sydney on the *S. S. Marella* and will arrive in Singapore, March 28. Enroute he will make stops at Brisbane, Townsville, Thursday Island and Darwin, Australia; and at Sourabaya, Semarang, and Batavia, Java.

On April 2 he will take a BISN steamer from Singapore for Calcutta, India, making stops enroute at Penang and Rangoon. He will be in India 11 days, crossing to Bombay by train. Mail from the United States will reach Mr. Taubeneck at Bombay if sent via Amsterdam or London with extra postage for the air line to India. Send letters in care of Ahmed A. Fazelbhoy, New Queen's Road, Bombay, India.

On April 25 he will sail from Bombay on the *S. S. Moloja* stopping a few hours in Aden, Arabia, on April 29 and arriving in Port Said May 3.

The picture in the circle above shows the editor pounding his portable on deck—with the help of an attractive fellow passenger. (George has a great way with the ladies, even when he wears goggles.)

San Francisco

To see San Francisco today, to feel its pulse, and inhale its aroma, you'd never believe it was once a hell-roaring gold-rush town.

But we have deathless fiction, romantic history, and—more recently—a cycle of talking pictures, to remind us of the time when the '49ers threw sacks of gold nuggets down beside roulette wheels, when a tough steak cost $10, and women were prizes practically unattainable.

The Gold Rush mushroomed San Francisco to a population of some 20,000; but when the gold fever died, the bubble didn't burst. San Francisco was big; it grew bigger. It was rich; it grew richer.

Always San Francisco has been rich. It has been rich in natural beauty, rich in climate, rich in sophistication, rich in tradition and association, and above all—rich in the endowment of one of the world's two or three great natural harbors.

Because of Nature's gift of that harbor, and of gold, San Franciscans have always been traders and capitalists. When her noisier, bigger, more aggressive neighbor-to-the-south, Los Angeles, agitated successfully for the erection of Boulder Dam, it was San Franciscan capital which financed the building, San Franciscan contractors who got the business.

Father Junipero Serra really founded San Francisco, as he did San Diego and Los Angeles, by establishing a branch of his chain mission system there in 1776, to keep civilized and settled a company of soldiers who had pounded down stakes there a few months earlier. His Mission Dolores still stands.

Yerba Buena, the town was called, until 1835, when the growing town adopted the name of the adjacent bay. Came then the American flag, the Gold Rush, statehood, and the romance which has never quit its sun-and-fog-kissed shores.

* * *

The Golden Gate

Almost by mutual consent among seafaring men, San Francisco's Golden Gate ranks with the harbors of Buenos Aires, Rio de Janeiro, Naples, Constantinople, and Sydney as one of the greatest natural ship havens in the world.

It's almost amusing to relate that this natural wonder, this heavenly haven for seafaring men, was discovered by a deer hunter! Don Gaspar de Portola, then governor of Spanish Lower California, was out on a deer hunting party Oct. 31, 1769, when he sighted—for the first recorded time—the Golden Gate.

Seagoing explorers had been sailing past it for centuries without guessing its existence. Sir Francis Drake even dropped anchor in a cove just a mile away without sensing its nearness.

But since its discovery, the Golden Gate has not been what you might call neglected. Only New York does more shipping business in America. No less than 118 steamship lines schedule San Francisco as a regular port of call. It has 18 miles of berthing space, and an anchorable area of 450 square miles.

Out of San Francisco go American goods, people, customs, and influence to stops all around the rim of the Pacific. Into San Francisco come silk, tea, and cheap electric light bulbs from the Orient, coffee and bananas from South America, indigenous vegetable fibres from South Sea Islands and the Dutch East Indies, sugar and pineapple and romantic ideas from Hawaii, dairy products from New Zealand, wool and zoological specimens from Australia.

Always, it seems, San Francisco has had a cosmopolitan flavor, blown in from the sea. Food—marvelous food, almost comparable to the gourmanderie of New Orleans—is to be had in San Francisco, and without that when-the-check-comes headache.

Possibly because the sailors demanded and created a market for them, the favorite meals of many nations, of Japan and China, France and Russia, Spain and Mexico, Sweden and Hungary, are menued regularly in specialized restaurants.

San Francisco has always had a dash of the Bohemian in its system. Art is appreciated there, and on the grand scale, too. They love to take visitors into Gump's famous treasure house of *objets d'art*, do these San Franciscans, and remark casually that the delicate little jade carving over there may be purchased for a trifling $6,000, while that more elaborate piece over there is tagged at a paltry $24,000.

Music? The best. Plays, too. Broadway moves out there in the summer time. Concert and stage are part of everybody's life and enthusiasms out there. Literature? Bret Harte, Mark Twain, the Irwins, Norrises, Robert Louis Stevenson—all have written in and about this romantic city.

Yet San Franciscans love nothing better than to go down to the wharf Fish Market, watch the vast fleet of small, sturdy fishing vessels slip out at dusk, see the giant crabs ladled out of a steaming tank, bargain for fresh sea food to take home for dinner.

It is a city in which people *live* and *feel*, as well as work and think. Their play is as important and carefully considered as their labors. And their enjoyment of their city is that of the aesthete rather than Rotarian.

* * *

Hills, Bridges, Chinatown

Physically, San Francisco is unlike any other city you ever saw. Take the little (or not so little, at that!) matter of hills. Other cities are built on hills, Cincinnati, for example. But nowhere else are you made so *conscious* of the hilliness as in San Francisco.

Grade elimination apparently never occurred to San Francisco's builders. So steep are the inclines that steps are cut into the sidewalks—which then become long ascents of concrete steps—and the street cars are pulled by underground cables.

And those bridges! Connecting San Francisco with its Marin peninsula is Golden Gate bridge which, with its Trans-Bay companion, will become the two mightiest bridges in captivity. Tallest towers, longest cables, longest spans, most gigantic cantilevering—no need to quote statistics; just take our word for it that no structural work of man will awe you more.

Chinatown is not a half-hearted sideshow for tourists, but a delightfully natural place where the large Chinese population *lives* possibly more salubriously and happily than their countrymen do anywhere else on earth.

We arrived there during the celebration of the Chinese New Year, when all good Chinamen pay up their debts, and take the week-end off to feast, shoot firecrackers, dress outlandishly, and drag out the dragon.

Chinatown is the servants' quarters of San Francisco. Out from its happy—hoppy—junky confines issue daily the city's manservants, cooks, waiters, house boys, gardeners, valets, janitors, elevator operators, and men-of-all-work. A large majority are American born; all are content.

Majestic public buildings, elegant hotels (Mark Hopkins, Fairmont, St. Francis, Palace, Sir Francis Drake), extravagant parks, terraces of colorful roofs, silhouetted masts, circling sea gulls, wisps and gobs of fog, and all embossed on a gray background of stately hills, San Francisco is a sight long to cherish.

It is a city which profits on the transportation, handling, and exchange of a world's products. It is also a city where the producers of these articles, whether from isolated ranches and mines, or from distant foreign shores, may be fed and entertained in the grand manner. It is most of all a city of adults, who *live* in a delightful yet substantial fashion.

* * *

Concerning 'Sandy' Pratt

While flying over craggy mountain ranges from Los Angeles, it occurred to us that we were more curious about CLARENCE F. "SANDY" PRATT than anybody or anything else in San Francisco—a city we have long been eager to see and to know.

This gentleman with the unbelievable name has a decided flair for publicity; and for years we had been receiving voluminous sheafs of clippings in connection with the Outdoor Christmas Tree Association, the Sunrise Easter Service, the Rotary Club, and whatnot.

He is a refrigeration parts jobber; and when jobbers were given the opportunity to become agents for ELECTRIC REFRIGERATION NEWS, "Sandy" seized it. Moreover, he has done a whale of an over-the-counter business with single copies of the NEWS.

What we found was a massive, kindly, modest man who will go almost to any lengths to help a friend. Moreover, we learned that the entire refrigeration fraternity in San Francisco admires and respects Mr. Pratt.

He occupies a unique position among San Franciscan distributors and dealers, a position unduplicated, we believe, by any one individual in any other city. Mr. Pratt is the official appraiser of trade-in refrigerators for practically every selling organization in San Francisco.

If a General Electric salesman, for example, convinces the owner of a 1931 Majestic that it's time to buy a new Monitor Top, he calls up "Sandy," who goes out and sets a value on the box—a price which he himself is willing to pay for it. That becomes the official quotation on that box.

Mr. Pratt does quite a thriving business in second-hand refrigerators, in addition to his parts jobbing; and most distributors around there consider him a godsend to the business.

* * *

Strong Bureau

One of the strongest electric refrigeration bureaus we've ever studied has control of the situation in San Francisco, and under its auspices the business in that territory has been kept remarkably "clean and clear."

For instance, coin meters have been kept out entirely. So have free deals, dumping, and indiscriminate price-cutting.

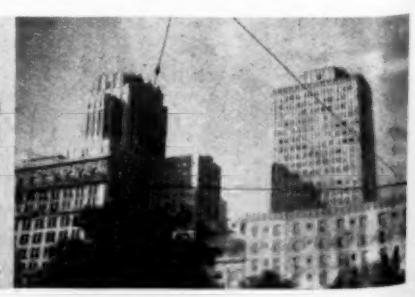
Moreover, there are practically no "free" dealers in this territory, i.e., they all handle—and are loyal to—one make of refrigerator only.

Sears Roebuck has been a real factor here, and association members feel that this concern's underpricing ac-

(*Concluded on Page 5, Column 1*)

Scenes That Every San Franciscan Knows

"San Francisco," writes George Taubeneck, "is unlike any other city you ever saw." And just in case you've never been there, but hope some day to go, these candid cameragraphs will give you a pretty good idea of what to look for. Upper left: One of the crab cooking pots, where crabs the size of a small dinner plate can be bought for 25 to 35 cents. Right: Fishermen spend a fisherman's holiday—on the wharf. Lower row, left to right: (1) Some of San Francisco's hills, like this one, are so steep that steps have to be cut into the sidewalks for pedestrian traffic. (2) Another steep one, flanking the Fairmont hotel—the street car is pulled by underground cable. (3) A scene in Chinatown, where most of the city's domestic workers live. (4) The fishing fleet off Fisherman's Wharf. (5) Two of the city's majestic public buildings, as seen from Union Square.



Around the World

With George F. Taubeneck

(*Concluded from Page 4, Column 5*)

tivities definitely "hurt" dealers in 1935.

Because of its cool, even-tempered, properly humid climate, San Francisco is considered a relatively poor refrigeration territory, and an even more difficult place to sell air-conditioning equipment.

Electric refrigeration saturation among San Franciscan homes is low—about 24%. This is the original home of the "California refrigerator," which consists of a ventilated, shelved box for food storage which is hung up *outside* the house for cooling.

Conditions are also relatively unfavorable for electric range sales, too; chiefly because of the high cost of installation (from $50 to $90 per range).

* * *

Harty, Teddy, & Malcolm

Our old friend, L. H. BENNETT, who used to be the G-E distributor in San Francisco, has abandoned the cause and deserted to the "enemy."

He is now an ice man in Oakland, operating L. H. Bennett Industries. Having made a contract with the Union Ice Co. of San Francisco, which controls 131 ice companies in California and Nevada, Mr. Bennett is selling commercial ice refrigeration service and equipment in all this territory.

Also he is distributing the Russ Rapid Ice Beer Cooler, a new product of the Russ Soda Fountain Co.

C. W. HARTENFELS is the new manager of this distributorship which, like many another, is owned by the General Electric Co.

GEORGE A. LLOYD is general sales manager, R. GROSJEAN is advertising and sales promotion manager, D. J. DAVY is secretary-treasurer, and the widely known and highly popular HARRY FALKELL (a SAM VINING type of personality) is commercial manager.

Mr. Hartenfels, an alert, canny, urbane young man, has moved the organization into a spacious new building, and increased the business considerably.

We had a most pleasant dinner and evening in the exquisite Hartenfels home, which is situated on a promontory overlooking the bay, and which has a large window which frames the sunset each evening.

MALCOLM BARD, who is promoting the new G-E Kitchen Waste Unit, and into whom we bumped wherever we went out on the Coast was also around; and together with the delightful Mrs. "TEDDY" HARTENFELS, who is quite a looker, we were bonvoyaged quite properly.

* * *

No Ballyhoo or Booze

By common agreement of all the distributors we saw in San Francisco—and we covered 'em pretty thoroughly, we gathered that more Norge refrigerators are sold in that city than any other make.

We have also heard JOHN KNAPP, vice president in charge of sales for Norge Corp., do some plain and fancy boasting about the fine record of the Leo J. Meyberg Co., Norge distributor in San Francisco.

So it was with more than ordinary anticipation that we made an appointment with A. H. MEYER, ranking executive of that organization.

Mr. Meyer has been signally successful in lining up department stores, and in training department store salesmen to make good presentations.

"No deviation from ordinary business fundamentals" is his policy. He "is not crazy for" sales meetings and contests.

"You spend your money for a lot of ballyhoo and drinking—and then nothing happens."

Rather than this, he favors close individual contacts with dealers and salesmen, with frequent private conferences.

He has some 500 dealers in a territory that embraces all of California and western Nevada. M. G. SUES has charge of the Los Angeles operation.

For a long time, states Mr. Meyer, he was fearful lest the radio mind would get control of the refrigeration business; but praise be, it didn't.

"Radio is an hysterical business," he says. "That's unfortunate, too, because potentially it should be a high-volume, high-profit business. The radio situation is much better here in northern California than it is in the East, but it's still a phoney business."

What! No Steam?

According to DON COLVIN, vice president and treasurer of Colvin-Templeton, Inc., San Francisco's Westinghouse distributorship, progress of air conditioning out there is complicated by the absence of steam heat in buildings. What little heating that is done is accomplished chiefly by gas.

Moreover, San Francisco houses are not insulated. He thinks that air conditioning sales in that territory will be limited to the San Joaquin and Sacramento valleys, and that even there air-conditioning functions will be restricted to *cooling*, circulating, and cleaning the air.

Household refrigeration sales get off to an earlier start in San Francisco than in most places, a condition which Mr. Colvin finds convenient in that he is always able to obtain deliveries at the start of the season.

Repossessions, he finds, are extremely low. Chiselling is not rife in San Francisco, as it is in southern California.

President J. T. TEMPLETON of this distributorship told a San Francisco newspaperman who was interviewing us that "ELECTRIC REFRIGERATION NEWS commands the greatest respect, has the highest standards, and owns the most loyal following of any business or industrial paper ever published."

Mr. Templeton has 125 dealers in a territory consisting of metropolitan San Francisco, Oakland, San Mateo, and the northern California coast. He operates master retail stores in each of the cities mentioned, with eight to 10 salesmen working out of each store.

Outside the metropolitan areas, where he has lines in several multiple-dealership furniture and department stores, all of Mr. Templeton's dealers are exclusively Westinghouse.

His distributorship also sells Westinghouse commercial refrigeration and laundry equipment, merchandising each through entirely separate departments and organizations.

Four of San Francisco's Leaders

Upper left: An old friend and amateur West Coast correspondent for the News—Clarence F. "Sandy" Pratt, president of California Refrigerator Co. Right: Al H. Meyer of Leo J. Myberg Co., Norge distributor in California. Lower row: Don Colvin and J. T. Templeton of Colvin-Templeton, Inc., Westinghouse distributor in the Bay area.

Interviews

By Robert P. Nixon

What Los Angeles Engineers & Manufacturers Are Doing

Assembly Work Feature Of Parker Company

Parker Manufacturing Co. has a small plant at 1926 E. 7th St., and H. C. Parker, sales mgr., is proud of the fact that it is small.

"Small but financially sound" is Mr. Parker's program. He normally employs just 8 workers in the plant. Most of the parts are produced to their order by machine shops; their own job is one of assembly.

An adequate supply of all parts and supplies,—valves, fittings, tubing, forgings, etc. are filed in a rather small stock room which is really part of the display floor. More can be obtained on short notice, states Mr. Parker. With his small organization, he claims that he can turn out a volume of complete units to order which will compare favorably with organizations many times their size.

Mr. Parker points out the two most important principles under which the company is developing. First, to be able to produce substantial quantities of household or commercial units on short notice. And then, at the same time, to keep down capital outlay and overhead by actually handling assembly work only in the plant. Result, according to Mr. Parker, is low prices, good workmanship, and no heavy losses during winter season.

Typical of California was a large red-wood water cooler, over 3 feet in diameter, being produced to specifications in the Parker plant.

Behind the business is a long tradition in the making of refrigerating machinery. In his office desk Mr. Parker keeps an original blueprint dated December, 1897—drawings of a refrigeration unit designed and produced by his father, L. M. Parker, at a plant in Monrovia, California.

* * *

Day & Night Features Water & Beer Coolers

Sales offices of the Day & Night Water Heater Co., Ltd., are at 2320 E. Eighth St., Los Angeles, while factory production is handled at Monrovia, Calif. Their products of most interest to the refrigeration field are water coolers and beer coolers.

Cataloging of their water coolers by large eastern manufacturers has been of great help in successful national distribution, says R. O. White, manager of the refrigeration division.

Miller Tells about Publishing Experience

In December of last year Joseph Miller established Miller Conditionair, Inc., for the manufacture of a low-cost room-type air conditioner of his own design. The showroom and office for the company are located at 1138 S. Broadway.

Mr. Miller's previous experience provides an unusual, but natural, background for the manufacture of unit air conditioners. It includes a great deal of construction work, the editorship of a national magazine for women, and the publishing of a newspaper in a small southern California town.

Particularly interesting among construction jobs of his own design is an apartment house built in Los Angeles in 1927, but incorporating many features which are considered most modern in building construction today.

There is no inside court; every apartment has windows facing outward from the building, and each has its own veranda built into the regular lines of the walls. Interior decoration and furniture carry out the modern motif.

There has never been one vacancy, Mr. Miller explained as we looked through the apartment house, since the year it was first opened.

The magazine for women made rapid progress in the national field, Mr. Miller claims—until he gave up the job and a group of women took it over.

Mr. Miller admits that publishing a newspaper had been his toughest job. It was more than a decade ago when he took this one. Business had been good, and about 1922 he decided he was due for a rest. The newspaper was bought just as "something to do," but it didn't turn out that way. "I have never been more busy in all my life," is his comment on it.

With a knowledge of public likes and dislikes, and practical experience in construction work, Mr. Miller concluded some time ago that the public needs and wants air conditioning, *if* it is available at low cost. Hence, the Miller Conditionair unit described in the Jan. 29 issue of the NEWS.

* * *

Hotels Offer Good Air-Conditioning Market

Gay Engineering Corp. of California, 2650 Santa Fe Ave., handles air-conditioning and industrial refrigeration installations throughout the country.

Air-conditioning business has been good, and amounts to about half of the company's work, according to F. S. Hadfield, assistant general manager. The demand for installations has been steadily increasing, and the future of air conditioning for his company seems particularly bright.

Hotels have offered an especially fine market for installations, says Mr. Hadfield. Curiously enough, the second best hotel in any town or city will often be the first to install an air-conditioning system. Here's the reason, in an outline of Mr. Hadfield's explanation.

Hotel No. 1 gets most of the trade; No. 2 has plenty of empty rooms, and has tried nearly everything to win some of the good business. Somebody suggests air conditioning, or an installation company goes to see No. 2 as a logical prospect. No. 2 sees this as an opportunity and has the installation put in.

When completed, No. 2 uses this as a strong appeal for customers. No. 1 perhaps loses a few, or maybe a great many, sees the handwriting on the wall, decides air conditioning is the answer—and there's another air-conditioning customer.

When the deal is complete, No. 1 and No. 2 have their original standing in the community. But guests are more pleased, and air-conditioning business is much better, thank you. Any other hotels which want to keep in the running usually have to kick in too.

Office buildings are also beginning to represent a substantial market. In the case of any new building to be constructed, air conditioning at the time of construction is the only sensible procedure, according to Mr. Hadfield's viewpoint.

Later, the expense of necessary remodeling is always a big item, and it is very difficult to get an installation which will work as economically as if the building had been originally designed to include air-conditioning equipment.

Large industrial systems, ice plants, and similar installations have been the bread and butter business of Gay Engineering for several decades. As in the case of air conditioning, these are directed by men working out of the main office and plant in Los Angeles.

Welders and other skilled workers are sent to the location for any particular job (and this may be in Louisiana, New York, or Tennessee as well as in California). All other workers who may be necessary are hired at or near location.

Economy is also gained by having materials shipped directly from the mill to the point of construction.

* * *

Van Cott Cites Dangers Of Rapid Expansion

Mr. Van Cott, sales manager of Bedell Engineering Co. at 5400 Santa Fe Ave., states that most of their business is handled on a made-to-specifications basis with companies in and around Los Angeles.

According to Mr. Van Cott, the foreign market is "no good for the little fellow." Mass production methods in the larger plants make it possible for these to handle foreign shipments on a price basis with which the smaller companies cannot compete.

He has tried getting a share of the far East market, and at one time carried out a planned direct mail program. This produced a number of inquiries, stated Mr. Van Cott, but it was soon discovered that price competition made these efforts unprofitable.

Mr. Van Cott further observes that shipments to California from the East can be handled on a lower freight cost basis than shipments from the coast which are sent eastward. With this added to the competition of the mass production costs of large eastern concerns, Mr. Van Cott feels that the smaller Pacific coast companies make a mistake if they try to "spread out" too much.

Their policy, according to Mr. Van Cott, is the handling of a thoroughly good job in a localized territory, without taking on the dangers of too great a capital outlay and overhead expense.

Weber Showcase Finds Export Market Good

Main offices and plant of the Weber Showcase and Fixture Co. are at 5700 Avalon Ave. Mark Adams, in charge of dealer activity, claims for Weber the most complete line of store fixtures of all kinds in the entire country. Their refrigeration products, which include display cases and commercial refrigerators, now produce the second largest dollar volume among the divisions of Weber's business. According to Mr. Adams, the refrigeration line is rapidly moving toward first place in the company's sales figures.

Weber Showcase entered the export field about 18 months ago, says Mr. Adams, and has made good progress. He sees every reason to believe that '36 will show a further jump upward in export sales. The price situation is not so bad in foreign countries, while in the home market he characterizes it as a "touchy subject," marked by especially sharp competition.

This spring Weber will begin a dealer campaign in the southern states, declares Mr. Adams, and by the end of the year the company expects to have 50 new dealerships along the South Atlantic coast and in adjoining states.

As yet the company is not making an aggressive bid for business in Detroit, New York, and the sections which surround these two centers.

Mr. Adams, contrary to the findings of some of the smaller West Coast manufacturers, recognizes no particular difficulty in shipping to the Midwest; freight rates have not formed a substantial barrier against Weber's shipments eastward.

* * *

Three Price Lines Explained by Adams

The Weber display case production is divided into three distinct lines; the DL, 600, and 700, in order of increasing price ranges. Each of these lines is produced in a full range of sizes.

The DL line, designed to meet price competition with a substantial yet inexpensive box, is finished in Dulux, and wood door construction is used for all models in this line.

The 600 and 700 lines are finished in porcelain enamel, with all-rubber doors, and cork insulation throughout. Door construction is of very heavy molded rubber. For quality and flexibility of design, Weber manufactures its own rubber doors; according to Mr. Adams, this is the only company manufacturing display cases which does its own rubber-molding work. Automobile-type door stoppers allow slamming of the door with no damage to its construction.

Triple glass windows are fitted into a rubber setting, and a spring steel rim holds the setting permanently tight, preventing entirely any frosting, fogging, or sweating of the panes. Another advantage of the rubber setting, Mr. Adams points out, is its ability to hold the triple layers of glass absolutely parallel. This completely does away with the glare and reflection, which otherwise would destroy the display value of a case.

Weber plant's lumber yard stretches for well over a hundred yards, and large stocks are regularly carried on hand. Of particular interest were the drying sheds, where lumber is seasoned before entering the plant for use. As Mr. Adams explains, the sheds are subject to the constant forced-air circulation of ventilating fans.

* * *

Wood Soaked Thoroughly Before Being Dried

First in the drying process, steam is introduced into the sheds, until every piece of lumber has become thoroughly soaked to the core. After this has been done the steam jets are turned off, but the ventilating fans continue, and gradually take up every particle of moisture which is in the lumber.

Only by first soaking the lumber with steam, explains Mr. Adams, is it possible to extract the moisture which may be at the core of any piece in the lot. Otherwise the outside is merely dried out, while the inside retains its moisture. But with the lumber thoroughly soaked throughout, the outside not only dries, but by capalary action pulls behind every bit of moisture from the core of the lumber.

Large, rapid-moving machinery is typical of the Weber plant. From the lumber yard, boarding is carried to the "ripper," a machine whose circular saw rips a board of sixteen feet into the desired widths in about 3 to 5 seconds.

Later the "sticker," into which boarding is fed end-wise, takes out a square or rectangular cut from all four edges of the board from one end to

(*Concluded on Page 7, Column 1*)

Interviews

By Robert P. Nixon

(*Concluded from Page 6, Column 5*)

the other, and all at one trip through the machine. This machine, of heavy and rugged construction, consists of a number of circular saws, which may be set at almost any desired angles for trimming the boarding into shape.

The "double-end tenanter" is a relative of the "sticker," and is another machine whose weight can be measured in tons. Here the boarding, in short lengths, is fed into the machine sideways. Again like the "sticker," this machine does its job in one operation. In this case, the two ends of the board are trimmed to whatever shape is necessary, for use in interlocking woodwork. At the time we were watching the machine, short lengths of boarding were being trimmed to fit in the interlocking form of door-construction.

Once the adjustments are set to the proper positions, either the "sticker" or the "double-end tenanter" can handle boarding about as rapidly as an operator can feed the machine.

* * *

How to Bore a Square Hole

Still another of the machines which we watched in operation was the square-boring machine, which bores a neat square hole to any desired depth into a piece of boarding. This consists of an automatic boring machine set in a chisel-bladed square casing which automatically follows the action of the boring tool. "Neat square hole" in this case means that only 1/128 in. tolerance is allowed.

In one section of the shop is a department with its own separate little group of machines, in which one man is kept busy regularly at sharpening tools used throughout the plant.

The company's wood-door construction for the DL model is of Douglas Fir, heavily built with interlocking joints and the added protection of pegging perpendicularly through each connecting joint.

All insulation for Weber cabinets is sealed with tarred paper, and the wood parts of the cabinet are treated with a mineral-content paint to prevent decay.

A supply of cabinets is stocked before the outside sheeting and enameling has been applied, and before windows and doors have been installed. From this stock, including the various sizes which are cataloged, two dozen to fifty complete cabinets may be quickly made up for shipment, states Mr. Adams.

Weber furnishes no mechanical units, says Mr. Adams, but merely the finished display case. The company also supplies price-competitive commercial boxes, but this production is handled only on a small scale.

In the spraying room, where a workman was applying a finish in front of a large ventilating fan, we snapped a couple of pictures, but for some reason they developed badly.

In connection with the spraying room are the baking ovens. Here, says Mr. Adams, three coats are fused on to give a durable finish. The first coat bakes for about 3½ hrs. at approximately 225°; the next for 2¾ hrs. at 200°; and the final finish for about 1¾ hrs. at approximately 175°.

* * *

Adams Favors Dulux Over Porcelain Enamel

Mr. Adams feels that Dulux and similar finishes are proving to be worth more for the money than enamel, and expects to see an increasing trend away from the use of porcelain enamel as a case finish.

While looking over some completed models, Mr. Adams called attention to the exhaust seal leading from the spaces between the three plates of glass in the display case windows. These seals are left loose when shipping over high altitudes, to prevent breaking of the glass through pressure changes, and when tightened upon installation, they provide the necessary air-tight condition between the panes.

As a final check-up on the air-tight condition of the cases, each one leaving the assembly line is tested at a pressure just below the breaking point of the glass front, and if any leak is found, the case is held for correction of the difficulty.

Weber Showcase and Fixture is impressive in the *precision* of its production.

* * *

Praise for Los Angeles Chamber of Commerce

Drayer & Hanson, Inc., manufacturers of commercial evaporators, milk, beverage, and water cooling cabinets, and refrigerated truck bodies, are located at 738 E. Pico St.

Most business is in Los Angeles and vicinity, but they are expanding their services on the coast and in nearby states, and are also becoming more interested in the export market.

R. E. Ristow, sales manager commented on the especially helpful activities of the Los Angeles Chamber of Commerce in furnishing information on markets both throughout the U. S. and in many foreign countries.

They have men who travel regularly in districts which seem to offer worth while markets for Los Angeles products. Reports on their findings are then sent to all members in bulletin form. Mr. Ristow had a number of these on hand for regular use.

An average report will consist of 15 to 25 pages, covering in detail the business opportunities in any particular city. For example, a report on Shanghai includes general business conditions, tariff restrictions, importers who are interested in securing American products, the particular products which they want, distributing companies who are in the market for various products, the items they want, the volume in which they buy, and other pertinent data.

The reports on individual importers and distributing outlets desiring particular products are especially valuable, stated Mr. Ristow, for a manufacturer may often find in these an immediate customer for his products—and the manufacturer knows in advance just the items which his prospect is looking for. The members of the Chamber of Commerce there get this service regularly. "It's really great," says Mr. Ristow, "yet memberships in Los Angeles cost no more than they do anywhere else."

The company's refrigerated truck body business is handled on a made-to-specification basis. Drayer & Hanson also convert truck bodies already in use into the refrigerated type. One example of this was a job nearing completion for a local ice cream company—corkboard insulated throughout, and movable shelves to be inserted for convenience in handling deliveries.

* * *

Range Manufacturer Finds Refrigeration Profitable

The Gaffers & Sattler Co. have a large plant located in the newer manufacturing district of Los Angeles, at 4561 E. 51st St. For many years this company has done a big business in electric ranges. This is still its principal line, and the company sold many thousands of electric ranges on the coast last year.

The refrigeration department, organized during the depression, has made steady progress, and though the chief engineer of this department states that it is still considered a sideline, he believes the approximately 2,500 units produced during 1935 to be really a good record.

Bulk of deliveries are made from the plant to customer, and all servicing is handled from the factory. The company maintains no distributors for Gaffers & Sattler refrigerators.

The firm also maintains a retail display floor for the convenience of those in the vicinity of the plant, which is a number of miles from downtown Los Angeles.

* * *

Specialization Extolled By H. T. Jarvis

Refrigeration Engineering, Inc., a closed corporation owned by W. F. Hancock, president, and H. T. Jarvis, vice president in charge of sales, is located at 6101 S. Central Ave.

In business less than four years, this company has made rapid progress, according to Mr. Jarvis, and expects to get a fair share of export business during the coming season. Refrigeration Engineering has a modern plant, and specializes in the making of coils of all kinds. "Every type of coil used in the industry," says Mr. Jarvis.

Mr. Jarvis believes strongly that this specialization gives them the ability to produce merchandise of higher quality than is otherwise possible. As he expressed it, he wouldn't want a company which was in the "coil business, the retail business, and forty-'leven other businesses all at once."

About 85% of the company's business is in the commercial classification; among the products they now have for the trade are small special coils which Mr. Jarvis claims are the most compact now manufactured. Recently he had an order for 40 from the local Frigidaire distributor.

This small unit, which the company is now featuring, is Model 150, "Humid Air," 11x11x11½ inches overall and weighing 24½ pounds, designed for butter-boxes, reach-in boxes, dairy cases, and bottled beer cooling. The unit is constructed with heavy aluminum housing, copper fins and tubes, aluminum motor mountings, silver-soldered pressure joints, and aluminum expansion brackets. Advantages claimed for this small unit are increased storage space and the finest workmanship available.

Last year the Coca-Cola Co. obtained these through York for use in automatic bottle dispensers, he reported.

Refrigeration Engineering makes no claim to "bigness," but through offering a specialized product, says Mr. Jarvis, it is able to produce merchandise of higher quality than many companies of much larger size.

'Low Pressure' Selling Methods Work Best in Small Towns, 2 'Quota Busters' Claim

By T. T. Quinn

"Low pressure" salesmanship, in a "high-pressure" industry, last year enabled two Nebraska Westinghouse salesmen to hang up records which not only placed them within the inner circle of Quota Busters, but qualified them, in addition, for two of the highest offices in the organization.

The men are C. Harry Brock, "rancher" of this year's Quota Buster crew, and Robert M. Serr, one of the three "directors." Both men are salesmen for Western Public Service Co., Mr. Brock in Chadron, Nebr., and Mr. Serr in Scott's Bluff.

Neither man is a novice at the refrigeration selling game. Mr. Brock has been in it for 10 years, coming up from one of the company's wiring crews. Mr. Serr, whose service stripes (by years) number seven, got his start with the company reading meters.

Agree on Selling Methods

Both men, however, have the same selling philosophy: don't rush your prospects; don't try to crowd them into buying in a hurry, just because you have a definite quota to make for a certain month. If you do, you're apt not only to delay the sale—you'll probably lose out on it altogether.

"Working small towns, as we do, you've got to more or less allow your prospects to sell themselves; if you try to make buyers out of them in a hurry, it's usually all off," Mr. Brock says. "A lot of the plans that other salesmen, in cities, use, wouldn't help out in our territory at all.

"When you're working in small towns, you've got to use small-town methods."

Small-Town Methods

And what are these small-town methods? Mr. Brock and Mr. Serr explained:

"Well, first of all, you can't use any pressure. Most of your selling is done on a 'friendship' basis—that is, either you've known the prospect for a long time, or some of your customers have. And you know you just can't walk up to a person like that and say, 'Look here, Mrs. Smith, you've got to buy this refrigerator now—or else.' It just doesn't work.

"Out in our territory the population is pretty well scattered—towns are small, and rather far apart. Each of us will work perhaps a 50-mile territory, promoting refrigerators, ranges, and other appliances—and wiring and lighting as well.

"When we pull into a town, we usually don't have much time to spend in house-to-house canvassing, although we still do some of it, when we get a chance. Most of our leads are turned in by our service men, our customers, and friends.

Service Men Furnish Leads

"Our service men pick up leads, for instance, when they're in a home making repairs on lighting, wiring, or other appliances that are in use there. As they work, they sort of size up the home, and listen for tips as to what the persons who live there are thinking about, in terms of appliances. Then they turn these leads over to us, and we go after them.

"Customers and friends are a great source of new business, too. In a small town, service is very important, if you're going to stay in business and make money. Of course, we're in a good position there—our company is always in a position to handle service calls promptly.

"A dissatisfied customer, in a small town, can do you a lot more harm than he can in a city. Everyday neighborly conversation naturally covers a wide range, and if a housewife so much as mentions that her refrigerator or range is giving her trouble, you can bet it doesn't take the news very long to spread.

Satisfied User Is a Booster

"Then, if you don't bring her back into the satisfied customer fold in a hurry, you'll find the going pretty hard when you try to sell one of her neighbors a refrigerator or range.

"On the other hand, though, if you can keep her on your side, the satisfied housewife is one of the best boosters you can have. She'll call in all her neighbors and show them how pretty her new refrigerator is, and how cheap it operates—and you'll find, when you go to make the sale, that a lot of your groundwork has been done for you."

"People in small towns usually make up their minds to buy a long time before they actually do—so there's no limit to the number of calls you can make before a sale," Mr. Serr said.

Demands Order—and Gets It

"Yessir," said Mr. Brock, "that's right—and the way you'll actually close a sale sometimes is surprising.

"I remember one I closed one Sunday morning after church. There was a restaurant man in town, and I'd been after him for a long time to buy a new range. He'd promised me he was going to buy, but he kept stalling me off. Finally, this Sunday, I walked in there, plunked a filled-out order blank on the counter, and said: 'See here, Charley, I'm getting tired of fooling around with you—sign this order and get it over with.'

"By golly, he did sign."

Another nice thing about small-town selling, the two men agree, is that your credit risks are smaller. You have a pretty good idea, before you sell an appliance, as to how promptly the customer will be able to pay for it.

Contact Minimum Customers

All potential customers—and refrigeration saturation in both men's territories runs between 40% and 50%—are carried on the Western Public Service Co.'s books as users of electric current. If the customer's monthly statements place him in the "minimum users" class—30 kwh. or less—he immediately becomes a desirable prospect for one or more electrical appliances.

The utility finances all time-payment sales itself, adding the amount to the monthly electric current bill. Suppose a customer buys a refrigerator. His payments are spread over 12, 18, or 24 months, and added on to his regular account.

Progress of payments is watched rather closely—and when the refrigerator is about paid for, salesmen know the customer is about ready to return to the "prospect" class; this time, perhaps, for a range, a washer, an ironer, or a water heater.

Don't Believe in 'Loading Up'

Just because a person is making his payments easily isn't at all a signal to the salesmen to "load him up" with appliances. Quite to the contrary. Even if a person is anxious to buy, the company sometimes stalls him off until it's sure he can make his payments promptly, without strain on his finances. Mr. Brock told of one such case:

"One of the fellows in my territory had been a minimum user, and we'd finally managed to get him to try out a chest-type model. We were confident that, in time, he'd realize that a family the size of his needed more refrigeration. He did find it out—sooner than we'd expected.

"He wanted a larger refrigerator—and right now, too. But I knew that, after he'd got it, the payments would make it pretty hard for him. So, at the risk of losing the sale, I advised him to wait a while, until he got into a stronger position, financially. His chest model, I knew, would be sufficient for his needs a while longer.

"I told him, frankly, that I thought he'd have trouble making the payments, if he tried to buy the refrigerator just then. You can do that, if you know your prospect well enough.

"He might have become angry because I expressed doubt as to his ability to pay—instead, he decided to wait, and later he bought a larger model, and paid for it without any trouble at all."

Both men insist there is nothing unusual to the methods they use to get results. The reputation of their company, and the fact that customers are always sure, if they buy through it, of obtaining prompt and reliable service, do as much as anything else to create an atmosphere of confidence and help sales, they assert.

Since families in the territory are large, 6 and 7-cu. ft. units sell best, the men find. Credit terms are flexible enough, too, so that a customer, if he'll drop into the local utility office and explain, need not be afraid that his refrigerator will be snatched out of his kitchen in the event he runs into a financial snag, and can't meet the payment right on the dot.

Promotion by the company, in the form of envelope stuffers with monthly statements, has been a big help in paving the way for first calls, the men say. Just now, the company is getting up a postcard mailing scheme to a list of "best customers," telling them of the advantages of appliance ownership, and the men are expecting great things of it.

'Quota Busters' Get Some Ideas for 1936 Selling

(1) Ray C. Cosgrove, Westinghouse household refrigeration sales manager, addresses the Quota Busters when they were entertained at the Mansfield plant. At his right, in the sombrero, is Quota Buster Herb Ratner of Greensburg, Pa. At his left, about to light a cigarette, is "Rancher" C. H. Brock, Chadron, Neb., No. 1 Westinghouse retail salesman in 1935. (2) P. Y. Danley, manager of the Westinghouse refrigeration and air-conditioning department, was another speaker at the sessions.

Handle Both Dayton Lines

DETROIT—For the fifth consecutive year, Crowley-Milner & Co. department store here, will handle the two lines of Dayton electric refrigerators manufactured by Heinz & Munschauer, Buffalo.

Air Conditioning

Air-Conditioning Sales in Cincinnati for 1935 Total 96 Installations

CINCINNATI — Ninety-six installations of air-conditioning equipment were reported made in Cincinnati during 1935, exceeding by 22 the 74 made during all of 1934, and bringing the city's all-time total to 149, according to a survey recently completed by Union Gas & Electric Co., utility.

Practically all of the city's installations—all but three, in fact—were made during the first nine months of the year, the power load on these jobs totaling 2,451½ hp. The three installations made during the year's final quarter brought the horsepower load to 2,505.

Power Load Greatest in Stores

Large stores accounted for most of the power load, offices being next in line, with restaurants and theaters following in that order. Small stores, residences, and miscellaneous installations made up the balance.

In percentages, the figures for the various classifications ran: large stores, 35.3%; offices, 29%; restaurants, 16.2%; theaters, 12.9%; small stores, 3.3%; residences, 1.8%; and miscellaneous, 1.5%.

"Because of the fact that Cincinnati has exceedingly hot and humid summer days, it offers an attractive field to the manufacturer of air-conditioning equipment," says F. S. Dewey, general sales manager of the utility. "It is not uncommon, in a normal summer, to experience days with a dry bulb temperature of 95° F., with 65% relative humidity.

Must Use Air Conditioning

"Under these conditions, it becomes imperative for commercial establishments which expect to continue normal business during the summer to install some form of air-conditioning equipment."

Outstanding installation in the city last year, Mr. Dewey reports, was in the American Druggists' Building. Although this building is comparatively new, its management believed that addition of an air-conditioning system would prove an inducement to tenants, increased revenue from whom would more than offset the cost of the equipment. This proved to be the case.

All 14 Floors Conditioned

The installation was started early in the winter of 1935, and was completed and in full operation by the time hot weather arrived. The entire building, consisting of 14 floors, is supplied with conditioned air, winter and summer.

System consists of two spray washer units, one located on the fourth floor and the other on the tenth floor of the building. Air is distributed by means of fans through ducts to the various offices. Refrigeration is supplied by two compressors, rated at 150 and 60 tons, respectively. The total system uses 305 hp. in electric motors.

While this is Cincinnati's first air-conditioned office building, there is every reason to believe that others will follow, Mr. Dewey says.

Theaters in Cincinnati, as in other cities, were among the first to install air conditioning for the comfort of their patrons, and practically all the city's downtown movie houses have been equipped with systems for several years. Trend during 1935, however, was toward the installation of equipment in the smaller neighborhood and suburban theaters. With one exception, all last year's theater jobs went into the smaller show houses.

Large stores were another classification which showed signs of increased activity, air conditionally speaking, during the year. The management of such establishments has long been awake to the value of conditioning in promoting summer business, and several important installations had previously been made. Last year's large store installations included two 5 and 10-cent stores in the city, while a large department store, which was partially conditioned in 1934, found the venture so worthwhile that it contracted last year for sufficient additional equipment to condition the entire store.

Restaurants formed another of the city's business fields into which sizeable inroads were made by air conditioning during the year. Eight such places were equipped with comfort cooling, the survey shows.

Last year also saw an increase in the installation of air-conditioning equipment in small stores, particularly those catering to women. Most of the applications in this field were of the unit cooler type, and reports to the utility indicated that they had been an important factor in beating down the so-called "summer slump."

"The people of Cincinnati are fast becoming 'air-conditioning minded,'" says Mr. Dewey, "and are expecting to find it in the places they patronize. There is, therefore, every reason to believe that the summer of 1936 will find a large increase in the number of installations, as compared with 1935."

While complete tabulations on Cincinnati's air-conditioning installations during 1935 are not available, the following short table will give some indications of the gains made there by the industry in that period. It will also serve to show that, while the number of installations has increased, the average size of the installation has gone steadily down—evidence that air conditioning is finding favor with the smaller business man.

	No. of Installations	Total Hp.	Average Hp. Per Installation
Before 1935	149	5481¼	37
During 1935	96	2505	26
Total	**245**	**7986¼**	**32½**

Addition to Trane Co. Under Construction

LACROSSE, Wis.—Construction of a 20,000-sq. ft. plant addition to the Trane Co., manufacturer of heating and air-conditioning equipment, has been started here.

The new building, which will be ready for occupancy in April, will facilitate the handling of larger and heavier equipment, officials say.

At the present time, two large plants provide the company with 150,920 sq. ft. of floor space.

Conditioned Restaurant Reports Business Gain

BIRMINGHAM, Ala. — Twenty per cent increase in business in the one air-conditioned restaurant of the Britling Cafeteria Co.'s chain caused John H. Holcomb, company president, to order similar installations for two other units here.

Shook & Fletcher Supply Co., agent for Carrier Engineering Corp., made the installation.

Trask Co., Boston, to Handle Kelvinator Conditioners

BOSTON—Trask Engineering Corp. was recently appointed distributor for Kelvinator air-conditioning equipment in this territory.

In recent years, the distributing company has been representative for Carrier Air Conditioning Corp., and before that specialized in the sale of industrial oil-burning equipment.

26 Air-Conditioning Installations Made in Toledo in 1935

TOLEDO—The 26 installations of air-conditioning equipment made in Toledo during 1935 not only eclipsed by a considerable margin the 17 made in 1934, but also exceeded by one the 25 installations reported in the city in all years before 1935. There are now a total of 51 air-conditioning jobs installed in the city.

Several new fields of business and industry were entered during the year, and positions in existing fields were strengthened, a study of the city's installations discloses.

Most important of these fields was that of stores, in which entry was made for the first time last year. Four store installations were reported, one of them, for 25 hp., in an apparel store; another, for 65 hp., in a 5 and 10-cent store; and two more in stores of a miscellaneous classification.

A second new field entered during the year was that of restaurants, two such installations being reported, totaling 34 hp. Third new field was in barber shops, the one installation made in that classification being for 3 hp.

Several other classifications also showed increases for the year. Among these was funeral parlors, five installations being reported for the year, against three in all the years prior to 1935. Factories in the city were another field to register a gain, the three installations for the year eclipsing by one the total made in all years before.

Office installations held their own for the year, the five reported being only one less than all those made previous to 1935. Other jobs for the year included one, for 60 hp., in one of the city's theaters, and another, for 80 hp. in a local hotel. Two installations of miscellaneous classification were also reported.

	Prior to 1935		During 1935		Through 1935	
	No.	Hp.	No.	Hp.	No.	Hp.
Banks	1	268	..	..	1	268
Barber Shops	..	..	1	3	1	3
Factories	2	205	3	87½	5	292½
Funeral Parlors	3	16	5	40	8	56
Hotels	2	87	1	80	3	167
Offices	6	9	5	65	11	74
Residences	8	13	2	4	10	17
Restaurants	..	..	2	34	2	34
Stores, Apparel	..	..	1	25	1	25
Stores, 5 & 10¢	..	..	1	65	1	65
Stores, Miscellaneous	..	..	2	14	2	14
Theaters	2	870	1	60	3	930
Miscellaneous	1	5	2	12½	3	17½
Total	**25**	**1473**	**26**	**490**	**51**	**1963**

44 Apartments Will Be Equipped with Delco-Frigidaire Conditioning

NEW YORK CITY—Claiming to be the first apartment structure of its size in the world to be completely air conditioned, a 12-story building at 400 Park Ave. here now being remodeled, will have each of its 44 apartments individually controlled for the comforts of its occupants.

After remodeling, the building will have four apartments to each floor, except for the first, which is occupied by shops.

Delco-Frigidaire Conditioning Corp. will install the six 20-ton air-conditioning compressors necessary to provide refrigeration and dehumidification, reports James J. Nance, vice president and general sales manager of Delco-Frigidaire.

These compressors will cool water in two large coolers from which the water will be pumped in a circulating system to the 44 individual coil and blower units in the various apartments.

For winter operation, the air will be preheated, humidified, and filtered at a central conditioner on the roof, then taken into the individual conditioner in each apartment to be mixed with the recirculated air, and after being cleaned and reheated will be distributed to each room.

In the summer, the apartment unit will cool, dehumidify, and filter both the fresh and recirculated air. An individual air exhaust system will be provided for each apartment.

Pipes used for the circulation of cold water will be used in opposite seasons for hot water. According to present plans, this operation will also use the fresh air intakes, coils, and blowers, and the system will be so set up that the air will be humidified properly.

ELECTRIC
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Development of the Market

TWO weeks ago (Feb. 26th issue) we editorialized at some length on "A Way to Promote Air Conditioning." Delving back into the early history of electric refrigeration we recalled how, in 1926, the sales and advertising executives of the leading manufacturers worked out a cooperative program to "sell the idea" of electric refrigeration to the public, how a number of basic policies were developed as result of that cooperative activity, and how those policies affected the sales and advertising programs of the individual manufacturers. The purpose of the editorial was to point out how the air-conditioning industry might accelerate its progress by taking advantage of the lessons learned in promoting electric refrigeration.

Considering the great success of the refrigeration industry during the past 10 years and its continued progress in the face of depression conditions and an apparent saturation of the cream market, we believe that many industries, both new and old, might well study the methods used in selling electric refrigerators.

Smart Merchandising

Broadly speaking, the electric refrigeration manufacturers have done a very smart job of merchandising. In making that statement, it is not our intention to give blanket approval to everything which has been done by all of the concerns which have been selling electric refrigerators during the past decade. Perhaps we should also explain that by "smart" merchandising we do not mean *smart-aleck* methods or *slick* schemes. All manner of selling tactics have been used at various times and the industry generally has undoubtedly had to pay the penalty in some loss of public confidence to the extent that poor methods have been employed.

However, the great popularity of electric refrigeration and the great satisfaction which the public has experienced with the product afford ample proof that the bulk of the sales effort has been sound and farsighted.

Mass Educational Effect

It is our belief that the original cooperative program had a profound influence in shaping the destiny of the electric refrigeration industry mainly because the mutual understanding of the market problem and the agreement upon the fundamentals of constructive sales effort resulted in a *combined educational effect* which inspired confidence of the buying public. Expressed another way, all of the important sales forces in the industry moved *in the same direction at the same time* even though they were competitive and each one was working to serve his own interest.

A Guide to Air Conditioning

The moral for the air-conditioning industry, with its present unorganized and conflicting sales effort, should be apparent at once. It is true that some steps have been taken in the direction of working out a cooperative plan for the development of the air-conditioning market but it appears that the movement has not been sufficiently impressive to win the necessary support. We offer no criticism of those who have been promoting the plan. We know full well that it is an enormous job to organize a large number of independent competitors and get them to agree upon any constructive program. Our sole purpose is to lend such encouragement as we can to all intelligent effort in that direction.

We may find occasion later to comment upon some of the strictly competitive movements which worked to the advantage of the originator for a time but which were quickly adopted by other companies and soon became a part of the general industry practice. For the present, we would like to enlarge upon the points emphasized in the previous editorial to show how the selling methods of the industry have changed from year to year with changing conditions in the market.

The Luxury Market

In discussing the original cooperative program, we pointed out that *"pride of ownership"* was adopted as the No. 1 sales appeal. That appeal was reflected in advertising which emphasized dainty frozen desserts, ice cubes and other *luxuries* afforded by the electric refrigerator. Sales organizations took their cue from this type of advertising and devoted special effort to selling electric refrigerators to *prominent people.* In every community the *social leaders* were given first attention. Electric refrigeration became the *vogue.* It also became *news* when connected with well-known names.

From a market standpoint it is quite obvious that the electric refrigeration sales managers began at the *top* of the income pyramid. With each passing year, and with the gradual increase of the percentage of market saturation, the shrewd merchandising executives have worked *down* through the broader, lower-income layers, and each season they have altered their sales appeal to fit the market.

The Appeal to Intelligence

Food preservation, or health, was the No. 2 sales appeal. The health features of electric refrigeration were driven home most thoroughly during the period when the sales effort was largely focused upon that portion of the market which is made up of *well-educated* and fairly *well-to-do* professional and business people who could afford to buy, but who had to be convinced that the electric refrigerator offered something *better* as a method of food preservation.

Selling to Thrifty Buyers

Next in the order of appeals came *economy* and that feature became the leading item as the potential market entered the great layer of thrifty householders. Such prospects were less impressed by the vogue. They would not discard a piece of home equipment giving reasonably satisfactory service unless they could be shown the *economy* of replacing the obsolete equipment with something more efficient. In this period time-payment plans were emphasized and the terms were liberalized step by step until they reached the practical ultimate exemplified by 15-cents-a-day-in-a-coin-meter.

Economy of Operation

If we remember correctly, *convenience* was rated after pride, health, and economy. Regardless of the original evaluation of appeals, it is interesting to note that the "gadget era" followed closely after the emphasis on economy and easy payments. Perhaps the two appeals were concurrent since both are effective in selling to the housewife whose kitchen duties occupy a large share of her time and thought.

It is understood, of course, that *all* of the sales arguments are carried forward and continually reiterated but the *drive* has usually been one or two features in each phase of the market development.

It should be noted that practically all of the economy arguments up to the present time have dealt mainly with the purchase price of the refrigerator. Now that the great mass market awaiting cultivation is a very large layer of low-income families the trend of the sales appeal has turned to *economy of operation.*

Proof Selling

Thus in 1936 *proof-selling* campaigns are getting under way. *Tests* are being made and certificates are being offered to prove the low-operating cost of the machine, that it will hold specified temperatures, that it will freeze ice cubes in a definite time, etc.

It means that the manufacturers recognize that they are now confronting a market in which the cost of operation is an important factor. They now propose to sell the housewife whose budget is so limited that it makes a real difference whether the electricity consumed amounts to a little *more* than or a little *less* than a dollar per month.

The big lesson for air conditioning, as we see it, is that electric refrigeration merchandisers analyzed their market in advance, determined upon an orderly proceedure for its development, and have made their advertising and sales effort show the maximum results through each stage of their aggressive penetration of the market.

Comment

By F. M. Cockrell

Automobile Cooler

Frank West, the well-known gadget inventor of Detroit, dropped in the other day to inquire who might be a likely prospect for his latest marvel—a device for cooling automobiles, buses, and trucks.

A lot of refrigeration men have been working on that problem, but apparently they've all been going at it the *hard* way. Frank has figured out a system which is extremely simple. That seems to be characteristic of Mr. West's inventions, among which is the Crosley Shelvador.

Frank simply *told* me about his system for cooling automobiles. He did not show a model or even a drawing. In fact, I picked up a pencil and made a cross-section drawing of it myself—without taking the pencil from the paper.

Frank said, "Yes, that's it."

And I said, "For heaven's sake, hasn't anyone thought of that before?"

According to Mr. West he has made a careful patent search and finds no prior record of such an invention. Also, he claims that he has actually used the outfit on his own car during the hottest days last summer and that *it works.*

The cost of the equipment for a passenger car should not run over $25.00 and it might be sold for much less.

The funny part of it is that the *principle* is so old that the Egyptians would probably have thought of it if they had had automobiles.

From the foregoing remarks, of course you can easily figure out exactly what Mr. West has in mind.

* * *

Hard Money

The C. H. Earl Refrigeration Service Co., 1103 Garfield Ave., Bay City, Mich., can tell you what it means to sell commercial refrigeration in *cold* weather for *hard* money.

On Feb. 6, when the temperature was 21° below zero, Mr. Earl sold a Lipman ice machine to Bartlett & Asch (Meats, Groceries, and Dry Goods), Midland, Mich., and received as down payment *546 nickels* and *2,324 pennies,* making a grand total of $50.50. The nickels weighed 6 lbs. and the pennies weighed 16 lbs.

* * *

Fumigated Sales Letters

Gordon Neuenfeldt of the Taylor Electric Co., 720 N. Jackson St., Milwaukee, distributor for Leonard refrigerators, also had a recent cold weather experience. In addition to being snowbound in Marshfield, he was quarantined in the Isolation Hospital with a case of scarlet fever. But he kept on selling just the same.

In some manner he arranged to have multigraphed letters sent out to all of his dealers telling them what he had intended to tell them personally and adding to the interest of the letter with a sketch showing himself comfortably abed with a petite nurse holding his hand.

As a precaution, he added a postscript "This letter has been fumigated—guaranteed no germs."

* * *

Service in Shanghai

H. Vollrath, manager, Associated Refrigerator Services, 4-A Wongkashaw Gardens, Shanghai, sends a sample of a postcard used in promoting service business. Part of the sales talk is in Chinese and part in English. From the latter I note that they service "domestic and commercial refrigerating systems of all kinds—authorized service agents for Kelvinator, Sparton, Starr Freeze, Norge, Brunner, A/E, and DKW." I do not recognize the last two brands. Do you?

* * *

We Miss George

Brief mention was made in this column, Jan. 1, that "we need *another good reporter* on the NEWS." With so much activity in the industry, we have needed that reporter rather badly during the past two months.

We miss George Taubeneck. He can see more people, dig up more important news, and write more columns of good copy during the week, and do it every week in the year, than any trade paper man I ever heard of.

Of course, George is still doing his stuff on his trip around the world but the other members of the staff have had to work at top speed to keep up with affairs in the home territory.

We have all been so busy that we have not had time to give proper consideration to several dozen applications for the job of reporter. The trouble is that the letters have come from all over the country—from New York to Los Angeles. Several of the applicants look very good and as soon as a few more interviews can be arranged, it should not be difficult to make a selection.

Several letters came in from men who had neither training nor experience in any sort of publication work but who would like to have "a *permanent position* with a *substantial concern* where *future advancement* is *assured.*"

* * *

Our Collegiate Staff

A number of the applicants, however, seem to have had both training and experience directly applicable to our business.

This is very encouraging because, for several years, we have been operating on the theory that new members of the organization must be trained from the ground up. That is the reason that practically the entire staff is composed of young men and women who came to work for the NEWS soon after they graduated from business school or college.

Poor training, or bad training, is worse than none. During the first five years of this business, we had some very sad experience with people whose training was bad, terribly bad.

Trying to *build up* a new organization under those conditions was a discouraging, nerve-racking task. It was hard enough to get people who would *try* to do an honest day's work and *learn* the business, let alone finding someone who already knew how to do his job efficiently.

That favorite method of finding the right man, namely, offering more money or a bigger job to one who has already made a record with a successful competitor, was out, since the NEWS was the only publication of its kind in existence.

* * *

A Clean-Cut Crowd

During the past five years, we have had our problems, plenty of them, but the battle has been with forces *outside* of the organization. I haven't had to spend my time fighting poisonous influences inside the office.

It has been a real joy to work with a bunch of high-grade, clean-cut, ambitious young people who expect to make their way in the world by their own efforts, who want to acquire knowledge and skill for the good that it will do themselves, and who find satisfaction in accomplishment.

* * *

Half and Half

During the 10 years of publishing the NEWS, I have interviewed hundreds of applicants. Those years have been about equally divided between boom times and depression. The attitudes, desires, and emotions of people with reference to *jobs* have presented to me the most revealing picture of all of both cause and effect of economic conditions.

Time and again, in trying to size up and evaluate the significant factors in this complicated jumble of economics, business, and human relations, I find myself trying to interpret those mysteries in terms of people—particular individuals who have sat on the opposite side of my desk talking about their jobs, past, present, or prospective.

* * *

Unskilled Job Hunters

It has been an interesting study. In many cases the problem of the individual to find his place in the scheme of things has been fairly obvious. In others, it has appeared that the job-hunter was hopelessly confused in his mental processes.

Most appalling to me has been the high percentage of young men and women, in their twenties, who have never learned to *do anything* which requires even a moderate bit of skill, either mental or manual.

Balked in the effort to find out what the applicant could do, I have frequently asked the question: "What would you *like* to do?"

Varying the question, I have asked: "If you could have just the job you would like best, what would it be?" or "What kind of a job would you like to have five years from now?"

The answers, or the lack of answers, have indicated that a surprisingly large number have never given the matter any thought.

* * *

A Truthful Answer

I'll never forget the case of one girl who just walked in, looking for a job. She had no experience or training and no idea as to what kind of a job she might be able to do.

"Well, then," I asked, "what makes you think that you want a job?"

She blurted out the answer with utter frankness: "Well, the fact of the matter is, I don't, but my folks told me that I simply had to go to work."

Returning to the matter of applications from prospective reporters, I have been interested in looking over the college papers, small-town newspapers, and company house organs which have been submitted by various applicants.

In one of these papers, *The Concordiensis* of Union College, Schenectady, N. Y., is an item which seems to offer a clue to the origin of the New Deal.

* * *

Chinese Music

In the Feb. 20, 1934, issue some college student has reported a lecture by one John Hazedel Levis, who "told a large audience in Memorial Chapel Friday evening that the microcosmic music of the West may in the future resemble the Oriental, macrocosmic music of China" and that "as our hemisphere learns to regard Life more as a whole than in its parts our composers will reflect this broader attitude which is characteristic of Chinese philosophy and music."

Do you know what that means? Neither do I. But take a look at another paragraph in the story, it reads:

"The speaker cited the NRA as an instance in which the West is using a broader, *typically Chinese approach to its problems.*"

If you were among those who cannot understand the Brain Trust theory of government you need not feel badly about it any longer. Apparently it is simply another one of those Chinese puzzles.

Commercial Uses

Extensive Refrigeration System Built For New Evaporated Milk Plant

STOCKTON, Calif.—Extensive application of York dairy and refrigerating equipment has been made in the new evaporated milk branch plant opened here last year by Morning Milk Co., large western milk company with headquarters at Salt Lake City and main plant at Wellsville, Utah.

The plant was designed for a receiving cycle of 50,000 lbs. and a condensing cycle of 20,000 lbs. of raw milk per hour. The raw milk is received twice a day, being collected in 10-gallon cans from neighboring dairy ranches.

Raw milk is dumped, weighed, and tested for both bacteria count and butterfat content. Immediately after dumping, the cans are put through a straight-way washer where they are washed, sterilized, covers replaced automatically, and returned to the producers' trucks.

Milk received in the morning is processed immediately, but the night milk is held over for "panning" on the following day. The night milk is pumped over one of two York direct-expansion surface coolers, each 34 pipes high and 20 ft. long, having a stainless steel ammonia section and a York ammonia gravity-feed control system.

The raw milk, at 36° F., gravitates into one or more of three York 5,000-gallon insulated stainless steel storage tanks. While not refrigerated, these tanks are insulated with 4 in. of corkboard, so that the temperature rise in the milk during the storage period is negligible.

In the morning, the processing begins. The raw milk is pumped through a York stainless-steel, plate-type heat exchanger and heated to between 190 and 200° F. A York hot-water set furnishes the heating medium. As the milk in this stage is brought up close to the boiling point, the York heat exchanger minimizes "cooking on" by maintaining a close split between the milk and hot water.

The hot raw milk then goes to a "hot well" or open stainless-steel tank, two being used alternately so that the cycle may be practically continuous. Here the milk is brought up to the boiling point by live steam, and then fed to the stainless-steel vacuum pan. Ability to bring the whole raw milk safely up close to the boiling point before it goes to the hot wells means less steam is needed to raise it to its final temperature.

Approximately 50 per cent of the water content is removed by evaporation in the vacuum pan, going off in the form of steam, and leaving a milk double rich in butterfat and solids. The vacuum pan operator, guided by thermometers and testing equipment, closely controls the operating cycle.

The evaporated milk is removed from the vacuum pan by a homogenizer which, in addition to its usual function, also serves as a pump to put the product over the second York cooler, where it is cooled to 36° F. The milk then gravitates to the storage tanks previously mentioned.

After being "standardized"—brought up or down to a specified butterfat content—the milk is then pumped from the storage tanks to the can fillers. Sealed at both ends, the empty cans are delivered to the filler after traveling over a special conveyor system. The cans are filled on the rotary machine, through a ⅛-in. diameter hole, which is automatically soldered shut immediately after leaving the filler. They are then placed in perforated metal baskets and put through Fort Wayne sterilizers. This step in the processing insures the proper preservation qualities for which canned evaporated milk is noted.

Another conveyor system feeds the filled cans to the labeling and boxing machines from which conveyors load the finished product into waiting freight cars.

Refrigerating for the surface type coolers, and a small storage room used for storing samples and standardizing materials, is also provided by York equipment consisting of an 8x8-in. double-cylinder ammonia compressor, driven by a 60-hp. motor, a York horizontal shell-and-tube ammonia condenser, and receiver. The storage room is equipped with a York utility cooler.

Users of Refrigeration Tell Salesmen Specific Needs of Their Industries

BIRMINGHAM, Ala.—Several industries which employ electric refrigeration were represented among the speakers who described individual refrigeration needs to commercial refrigeration salesmen and some service men who attended the Alabama Power Co. commercial refrigeration and air-conditioning school recently.

H. H. Reader of Atlantic & Pacific Tea Co. gave a meat-cutting demonstration, discussed meat profits and meat cuts, and described the industry's phraseology, as well as naming necessary meat-market equipment.

John Weisendanger of McGough's Bakeries talked on "The Need of Cold Water in a Bakery," later illustrated with a trip through the bakery.

James Lee, who took the class through the bottling plant of the Buffalo Rock Co., explained the needs of a bottler and demonstrated that many of his problems deal with refrigeration.

The transfer of food odors is eliminated by an air-conditioning system in Britling's cafeterias here, according to the owner, J. H. Holcomb, who spoke to the salesmen.

A trip through Cudahy Packing Co. illustrated how meats are kept before the retailer receives them.

Factory representatives from Puffer-Hubbard Mfg. Co., Victor Products Corp., Seeger Refrigerator Co., Kelvinator Corp., General Electric Co., and Shook & Fletcher Supply Co. discussed their equipment, its construction, and sales presentation.

Other talks included one on what is expected of a commercial salesman, by Mr. Sutherland; and the value of selling the customer what he needs and can profit from, by W. E. Landmesser, commercial manager of G-E.

A. H. Reinach, commercial manager of Kelvinator Corp., spoke on selling along the "Three Step Plan." The value and use of advertising were presented by C. M. Kilian, and the 1936 program outlined by J. R. Lester.

Last three days of the school were devoted to air-conditioning selling.

Fogel Moves to New Philadelphia Plant

PHILADELPHIA—With its removal to a new plant at 1603 Vine St. here, Fogel Refrigerator Co., manufacturer of commercial refrigerators and display cases, expects to increase production 100% during the coming year, reports Albert Fogel, sales manager.

In anticipation of the business increase, the company has appointed five new distributors: R. F. Trant Co., Inc., Virginia; Don Polley Distributing Co., Iowa; Canton Hardware & Refrigeration Co., Ohio; Modern Store Equipment Co., Wilkes-Barre, Pa.; and S. E. Mowry Refrigeration Co., Binghamton, N. Y.

At the present time, a special department in the new factory handles the demands for display cases, walk-in coolers, and other market equipment for the several hundred stores of the Fortune grocery chain in New York.

Kelvinator Will Add Model To Ice Cream Cabinet Line

DETROIT—Kelvinator Corp. will add a six-hole model portable ice cream cabinet to its 1936 line in which the two-, three-, and four-hole models have been completely redesigned and equipped with new features, declares Edward R. Legg, manager of the national direct sales division.

Stylistic features of the line include white side panels, a stainless steel top, and square, black lids. New models are constructed with oblong sleeves to increase capacity.

The six-hole cabinet was designed to meet the demand of ice cream manufacturers for a portable cabinet with a capacity larger than that of the four-hole model, states Mr. Legg.

Super-Cold Opens Branch In San Francisco

SAN FRANCISCO—A new sales branch of the Super-Cold Corp., manufacturer of commercial refrigerators and counter-type ice cream freezers, was opened here Jan. 15 under the management of Vic Eberly, who has been with the company since 1929.

Ten salesmen will make up the local sales force to handle retail business. The branch will also conduct wholesale activities in northern California.

Jasperson Moved to Eastern Office of Peerless

BALTIMORE—M. K. Jasperson, formerly district representative in the middle west territory for Peerless Ice Machine Co., has been transferred to the eastern territory with headquarters here.

Commercial Refrigeration

New Cabinet Design Features Crosley's Bottle Coolers

CINCINNATI—New cabinet design and improved features mark the 1936 Crosley Koldrink Bottle Cooler, model G8G, manufactured by the Crosley Radio Corp.

The new model is of the sliding top type, and has a storage capacity of 125 twelve-ounce, 152 six-ounce, or 40 half-gallon bottles. Outside dimensions of the new cooler are: length, 44½ inches, width 25½ inches, and height, 35 inches.

A refined temperature control makes it possible for the new cooler to be regulated to obtain colder temperatures during rush hours, or to lessen current consumption when the unit is not actively in use.

Accessory equipment, which may be purchased at extra charge, is the Dual Tub which provides dual temperature with wet and dry refrigeration. Labelled bottles, candy, and other foodstuffs may be stored in the dry compartment.

The Koldrink model GSGB, equipped with bubbler, is designed for use in filling stations or similar places where a limited supply of drinking water is required.

A self-contained, standard 1/4-hp. Crosley commercial unit, is installed in Koldrink coolers. Insulation around the cooling unit is 2 inches on the sides, and 2½ inches at the bottom.

Bottle opener and basket for caps are standard equipment on the new Koldrink cooler, which may be obtained in dark green or red finish.

The new Koldrinks are 44½ inches long, 25½ inches wide, and 35 inches high.

Separate Beer & Ice Cream Sections Built into Truck

THIEF RIVER FALLS, Minn.—Two compartments for beer and one for ice cream is the unique combination accomplished in the three-compartment Frigidaire refrigerated truck used by Bridgeman Creameries, Inc., here.

Temperatures from 1° below zero to 8° are maintained in the 320 gal.-capacity ice cream compartment; and the two beer compartments, one for case and one for keg beer, are held at 40°.

Kold-Hold units coupled with a Frigidaire ¾-hp. compressor refrigerate the beer sections, which have three inches of Dry-Zero in roof and walls.

The ice cream compartment is insulated with six inches of Dry-Zero in roof and walls, and six inches of cork in the floor.

The body of the truck was built by Smith Commercial Body Works.

Alabama Revises Rules On Ice Cream Making

MONTGOMERY, Ala. — Counter freezer operators in the State of Alabama won an important victory here recently when the state board of health, through its chairman, Dr. J. N. Baker, modified Section 5 of its regulations governing processes employed in the manufacture and sale of ice cream and similar products to include the use of chlorine as a bactericide.

Commercial ice cream manufacturers in the state were opposing the move, insisting upon the use of steam as the only bactericide. The Counter Freezer Association was represented in the controversy by H. J. Srebnik of Bank & Pollard.

As a result of the board of health's action, Section 5 now provides:

"All equipment and vessels in which ice cream or any of its ingredients is measured, mixed, processed, or transported (except containers for individual service) shall be thoroughly cleansed at least once daily with an approved washing compound so as to look and feel clean, and shall then be subjected to one of the following forms of bactericidal treatment:

"(a). Exposure in a steam cabinet for at least 15 minutes to at least 170° F., or for at least five minutes to at least 200° F., or

"(b). For containers only, exposure to a jet of steam for at least one minute, or for other equipment, steam flow through the equipment until steam or steam condensate issuing from the outlet is at 170° F. or above for at least five minutes, or

"(c). Immersion in, or filling with, hot water so that the temperature of the water will be at least 170° F. for a contact period of at least five minutes, or

"(d). Passage of hot water through the equipment so that the temperature of the water issuing from the outlet thereof will be at least 170° F. for at least five minutes."

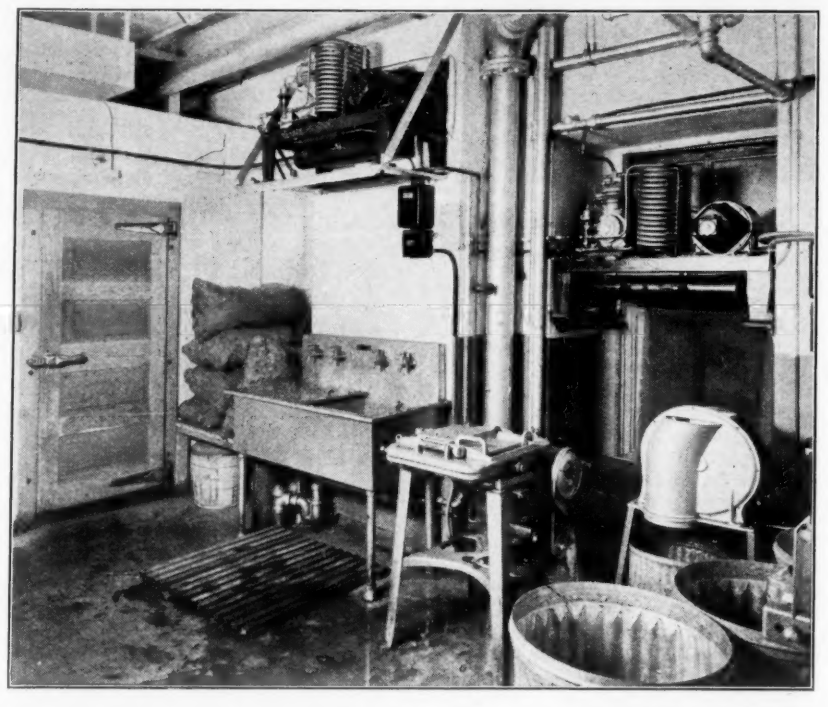
Commercial Credit Will Finance Pelco Sales

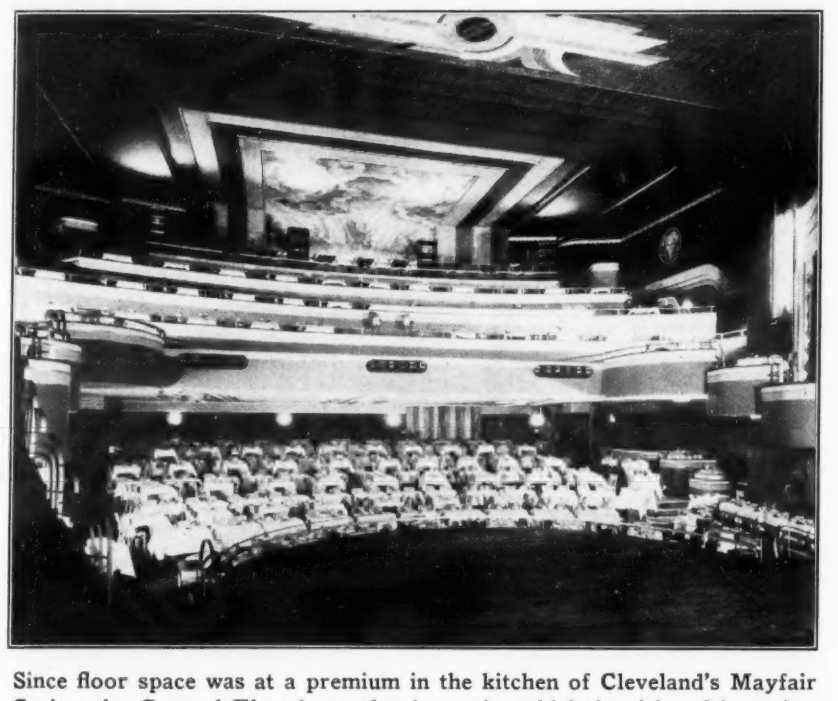
BLOOMINGTON, Ill.—Jobber and dealer sales of Pelco electric beverage-food coolers will be financed through Commercial Credit Corp., according to arrangements recently completed with the finance company by Elmer F. Born, sales manager of Portable Elevator Mfg. Co.

Super-Cold Distributor

VANCOUVER, British Columbia — General Refrigeration, Ltd., commercial refrigeration distributor here for many years, has been appointed a distributor for Super-Cold Corp. products for this territory.

When Floor Space Is Not Available





Since floor space was at a premium in the kitchen of Cleveland's Mayfair Casino the General Electric condensing units which furnish refrigeration to various kitchen refrigerators were assigned to "upper berths" as shown in the top picture. Below is shown the interior of the theater-restaurant.

G-E Commercial Equipment Used in New Theater Restaurant in Cleveland

CLEVELAND — Elaborately decorated and furnished, the Mayfair Casino, Cleveland's first "theater-restaurant," has not only the most modern of decorations and entertainment, but is completely equipped "behind the scenes" with a General Electric commercial refrigeration layout.

Approximately $100,000 was spent by the Mayfair in remodeling the Ohio Theater into a night club.

General Electric Co. furnished the numerous refrigeration units necessary for the varied services the club offers.

Mounted on Kitchen Walls

With floor space at a premium, a unique method of mounting the units is employed. Three refrigeration condensing units are mounted on the walls of the kitchen to furnish refrigeration for the food-storage cabinets located in a passageway back of the kitchen.

One unit is used to refrigerate the coolers in the passageway, such as the vegetable storage coolers equipped with a finned coil, poultry and meat-storage cooler equipped with a conditioned-air chilled unit which provides the proper relative humidity necessary for the preservation of meats, and the sea-food storage cooler, also equipped with conditioned-air chilling unit.

Another unit is used to refrigerate the walk-in cooler for ice storage and the reach-in short order box; while the third refrigerates another large reach-in box.

Refrigeration for Bars

Back bars of both a Russ bar in the foyer of the club, with a circumference of 144 ft. and a seating capacity of 97 persons, and a similar "sky bar" on the second balcony, are also refrigeration equipped.

Reach-in cabinets in the waiters' pantry on the main floor complete the refrigeration equipment now in use at the Mayfair.

Luxury is the key-note of the entire club. In the lounge, a 60-ft. mural painting decorates the ceiling, and six colorful motifs depicting various cocktails line the walls.

From the cocktail lounge, a large foyer and two staircases lead into the theater restaurant proper. On parallel platforms of the huge circular stage, two orchestras play for the 1,000 guests who can be seated at the many tiers of tables.

The stage is also used as the setting for the Mayfair Casino Revue, a two-hour show presenting 60 artists.

15 Ice Cream Cabinets in New Frigidaire Line

DAYTON—An entirely new line of 15 ice cream cabinets incorporating advanced features in operation and design is being introduced by Frigidaire Corp., reports B. J. Vandoren, assistant manager, wholesale division, Frigidaire Corp.

The new cabinets, divided into two series, portable and standard, offer simplified construction, reduced weight, greater portability, and lower all-around cost, Mr. Vandoren claims.

The portable series is finished in white Duco with black porcelain trim and legs. The standard series is finished in black porcelain with bright metal tops and flip-flop lids.

All models use Freon as the refrigerant.

Feature of the larger models is a multiple-sleeve arrangement which permits a user to maintain two temperatures in the same cabinet, one for bulk ice cream and one for package ice cream.

All models are equipped with Frigidaire's cold control so a user may modify or increase the refrigeration to meet his particular needs.

In designing the 1936 line of cabinets, Mr. Vandoren pointed out, Frigidaire engineers have recognized the need for greater storage space for package goods. The complete line, both portable and standard models, now has expansion type of refrigeration; and large, roomy compartments have been made possible by the elimination of brine tanks.

Insulation of all cabinets is of a special type, sealed with asphalt.

The line consists of five portable models, eight standard models, and two combination beverage and ice cream cabinets.

Lipman Names Distributors In Three States

BELOIT, Wis.—General Refrigeration Sales Co. here has appointed new Ohio, Illinois, and Texas distributorships for Lipman commercial refrigerating machines and air-conditioning equipment.

The Electric Range and Equipment Co., 2111 Adams St., Toledo; E. H. Armstrong of 1111 Avenue K, Lubbock Tex.; and Kastner's Refrigeration & Service Co., Chicago, will handle Lipman products in their territories.

Truck Used to Keep Food For Army Battalion

CLEVELAND—Use of a demonstrator refrigerated ice cream truck to store food for 320 men—an entire battalion of the 182nd Infantry of the U. S. Army, stationed in Philadelphia, N. Y.—was reported to General Electric headquarters here recently.

With its cooling system adjusted to maintain a temperature of 40° F., the demonstrator delivery body was used in this capacity for three days. It is claimed that during an ice shortage occuring later, the equipment was used to cool the food for approximately 1,000 men.

Hints on Installation of Surge Tanks, Refrigerant Lines & Manifold & Valve Boxes

CHICAGO—Methods of solving several different types of problems which sometimes confront the installer of a commercial refrigeration system are discussed in detail in the second part of "Installation of Commercial Equipment, Work Sheet No. 20" in the commercial refrigeration series of the refrigeration home study course prepared by the Refrigeration & Air Conditioning Institute of this city. Subjects covered include surge tanks, protection for refrigerant lines, and manifold and valve boxes. A later instalment will discuss compliance with code rules, location of apparatus, relief vents, machinery room, pressure tests, vacuum tests, refrigerant driers, and adding to the refrigerant charge.

Surge Tanks

In a multiple job where the part of the load connected directly with the compressor is small in relation to the other parts which may be shut off by operation of two-temperature valves, it is possible for there to be very considerable and very sudden changes in back pressure. This is apt to cause short cycling of the condensing unit, also to cause oil slugging.

One means for avoiding these troubles is to install a surge tank on the suction line near the compressor. A surge tank is simply a large reservoir containing refrigerant vapor and connected with the suction line through a single tube as shown in Fig. 1. These tanks have capacities ranging between 2 and 4 cu. ft., depending on the size of the system to which they are attached.

The surge tank acts to increase the cubic contents of the low side of the system so that cutting off or adding large portions of the total load through action of the two-temperature valves will have comparatively little effect on changing the low side pressure and will prevent such frequent operation of a back pressure control as otherwise would take place.

When an evaporator is shut off by the closing of a valve, the compressor continues to run until the pressure in the surge tank has been reduced instead of stopping as soon as only the suction line pressure is dropped to the cut-out value.

In making a surge tank installation it is necessary to guard against any possibility of oil from the suction line entering the tank and remaining there, which would rob the compressor of part of its required lubricant. The tank is located at the same level or a higher level than the suction line at the point of attachment. The connection then is made with a goose neck from a foot to one and one-half feet high. That is, the tubing must rise at least a foot after leaving the tank before it turns downward to join the suction line.

Protection for Refrigerant Lines

The matter of protecting liquid and suction lines with conduit was discussed while we talked about multiple systems for apartment houses. It is just as desirable to enclose the tubing for all commercial applications in conduit or to provide some other protection against mechanical injury.

Solid conduit or rigid conduit is used for the longer runs, while short lengths and most of the bends are made with flexible conduit. The type of flexible conduit known as "Greenfield" must be employed instead of ordinary varieties.

Rigid conduit should be clamped to the wall or ceiling or other support at least every 3 ft. on the horizontal runs and on vertical runs every 5 or 6 ft. Flexible conduit must be securely supported, the number and location of the clamps depending on the bends which are being made.

If the supporting members, to which the conduit is clamped, are subject to vibration from machinery, elevators, or other devices in the building, it is likely that there will be vibration of long runs of tubing inside the conduit with resulting objectionable noise. If you think there is any danger of this occurring you can put small pieces of rubber between the tubing lines and the conduit.

Tubing can be pushed through the usual short lengths of conduit quite easily. For long runs the tubing may be pulled with the help of the electricians' steel tape previously mentioned or with soft galvanized steel wire.

Before the tubing is fed into any conduit the ends of both lines must be hammered securely closed to prevent entrance of any dirt particles.

All outdoor runs made with solid conduit must have provisions for draining condensation from the conduit at any low point. Moisture will enter the conduit along with air and will condense on the cold suction line. If there is any trap where the conduit makes an upward turn provision must be made for escape of the condensation at this point.

In localities where the rules do not require conduit or where the code is not enforced you may find that low competitive prices are based on unprotected tubing or on the least protection which meets the need for ordinary safety.

When tubing is to be run on ceiling joists or other places where it may easily be struck and dented, protection may be provided with strips of wood nailed along each side of the refrigerant lines as shown in Fig. 2. The wood known as "furring strip" is low priced and of suitable size. When some extra protection is needed at certain points you can place a board cover over the strips.

Valve Box

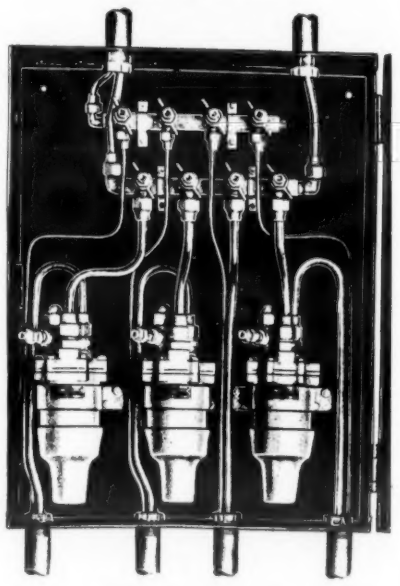


Fig. 3—Manifolds and two-temperature valves in steel cabinet.

The following combinations of tubing sizes may be run through conduit of various diameters:

Conduit Size	No. of Refrigerant Lines ¼	⅜	½	⅝
1 in.	1	..	1	..
1¼ in.	2	..	2	..
1¼ in.	1	..	..	1
1½ in.	3	..	3	..
1½ in.	2	..	..	2
1½ in.	..	1	..	2
2 in.	3	..	..	3
2½ in.	..	2	..	4

Manifold & Valve Boxes

Wherever the local rules require that refrigerant lines be run in conduit it is also required that the manifolds, shut-off or service valves, and line controls such as two-temperature valves be also protected with steel boxes having hinged covers. A typical box containing manifolds for liquid and suction lines, also three snap-action valves, as shown in Fig. 3.

Such boxes take the place of the panel board assemblies which are used without conduit. Boxes or cabinets are located close to the condensing unit, with the cover hinges at the top or one side so the cover will not tend to fall open and remain there. Connections from the evaporators enter the top of the box, and those from the condensing unit enter the bottom.

Notice in the illustration that the suction line manifold is connected from both ends to the condensing unit to form a loop, also that one of the suction lines from an evaporator leads directly to the manifold without going through a two-temperature valve. When only one end of a manifold is connected to the condensing unit the other end is plugged.

Threaded connections made here or at other points in the refrigerant lines should be made secure by using a paste of litharge and glycerine on the threads. To prevent the paste getting into the piping, apply it only on the male threads and not on the first two threads. Any paste applied to the female threads will be forced into the tubing when the joint is screwed together.

Installation of Surge Tank

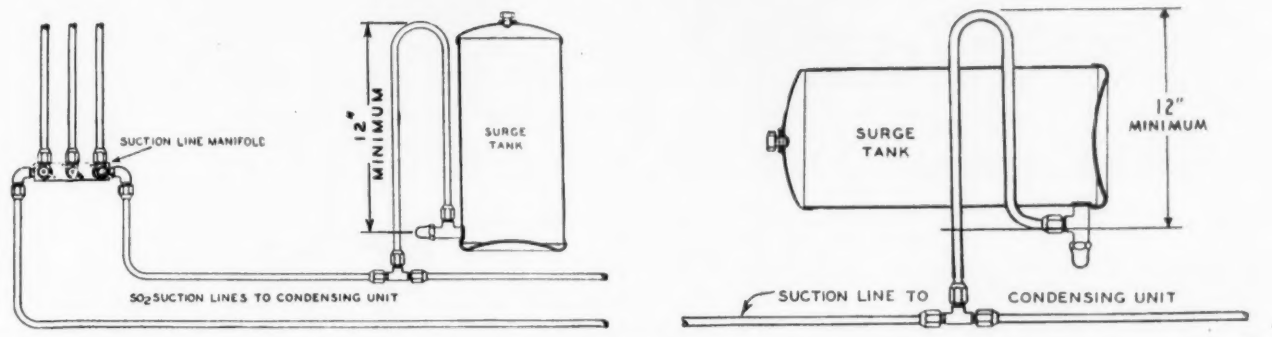


Fig. 1—Connections with loop to surge tank.

Protection for Tubing

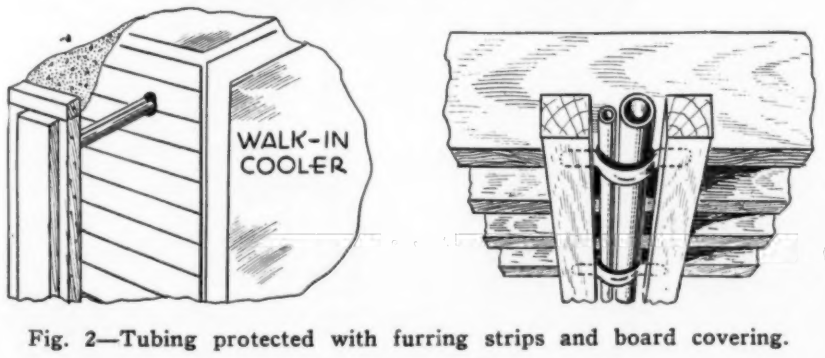
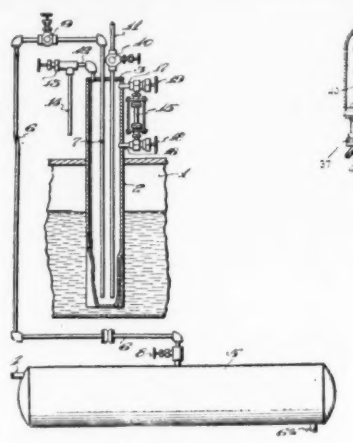


Fig. 2—Tubing protected with furring strips and board covering.



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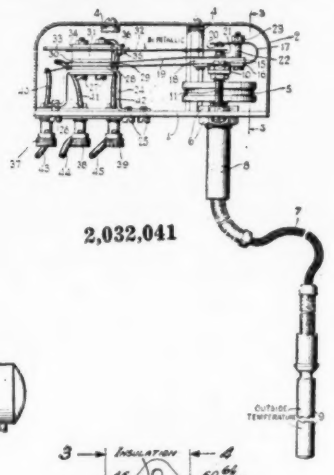

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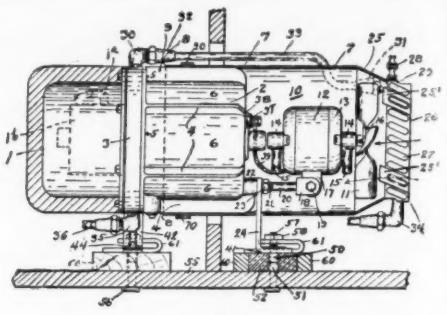

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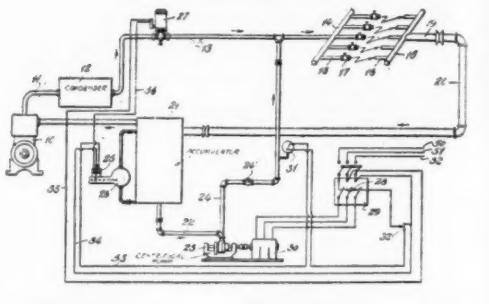

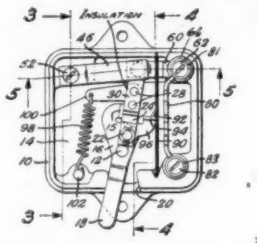

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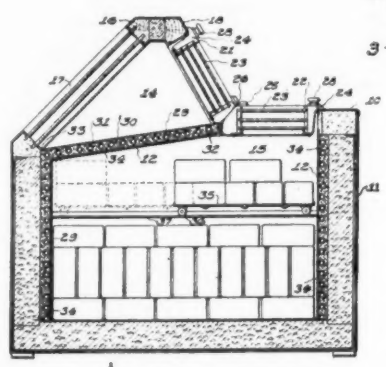

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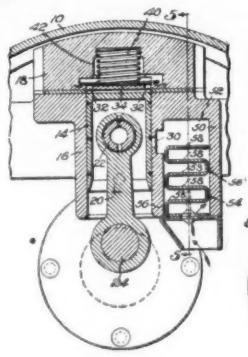

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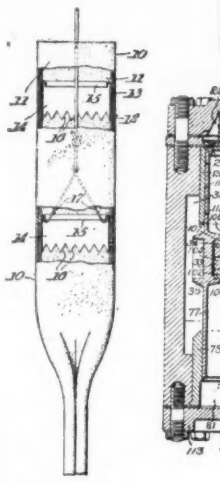

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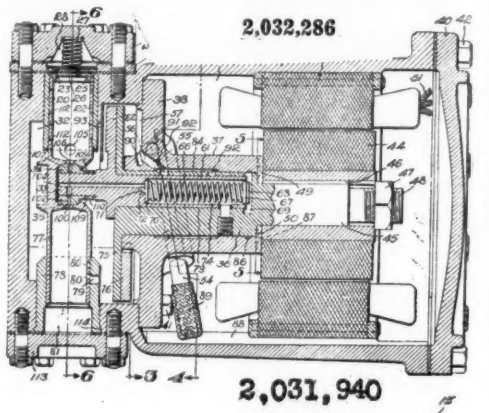

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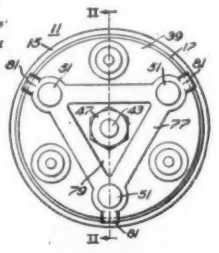

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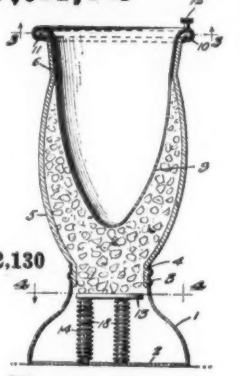

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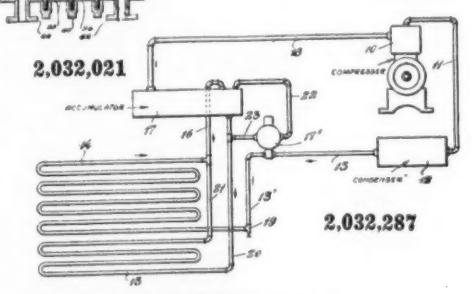

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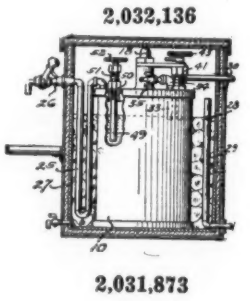

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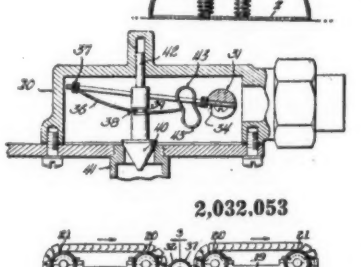

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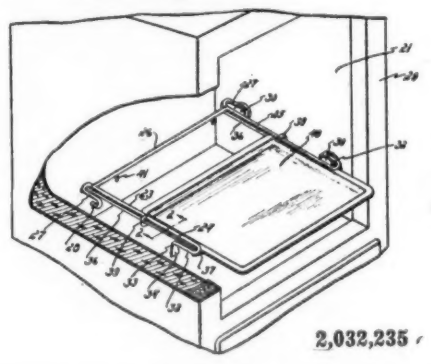

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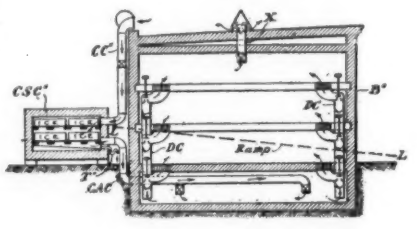

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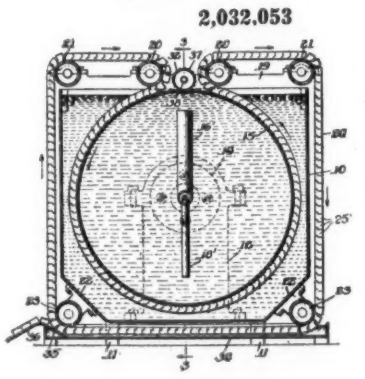

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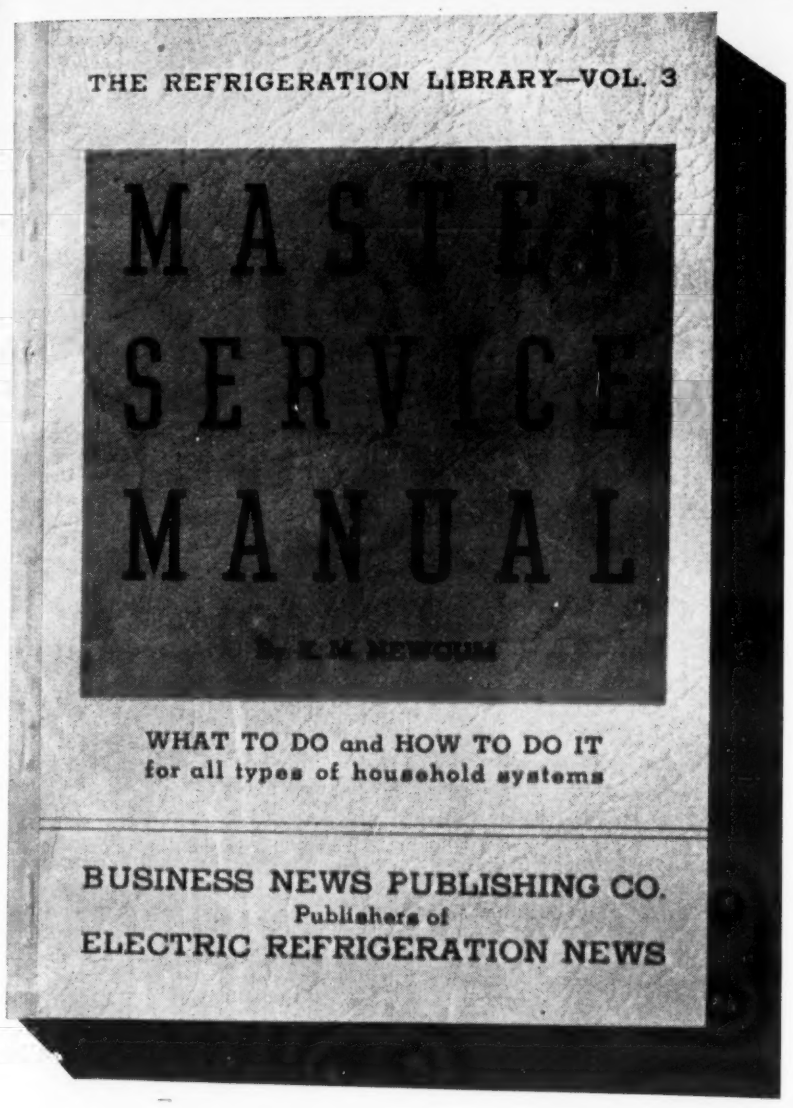

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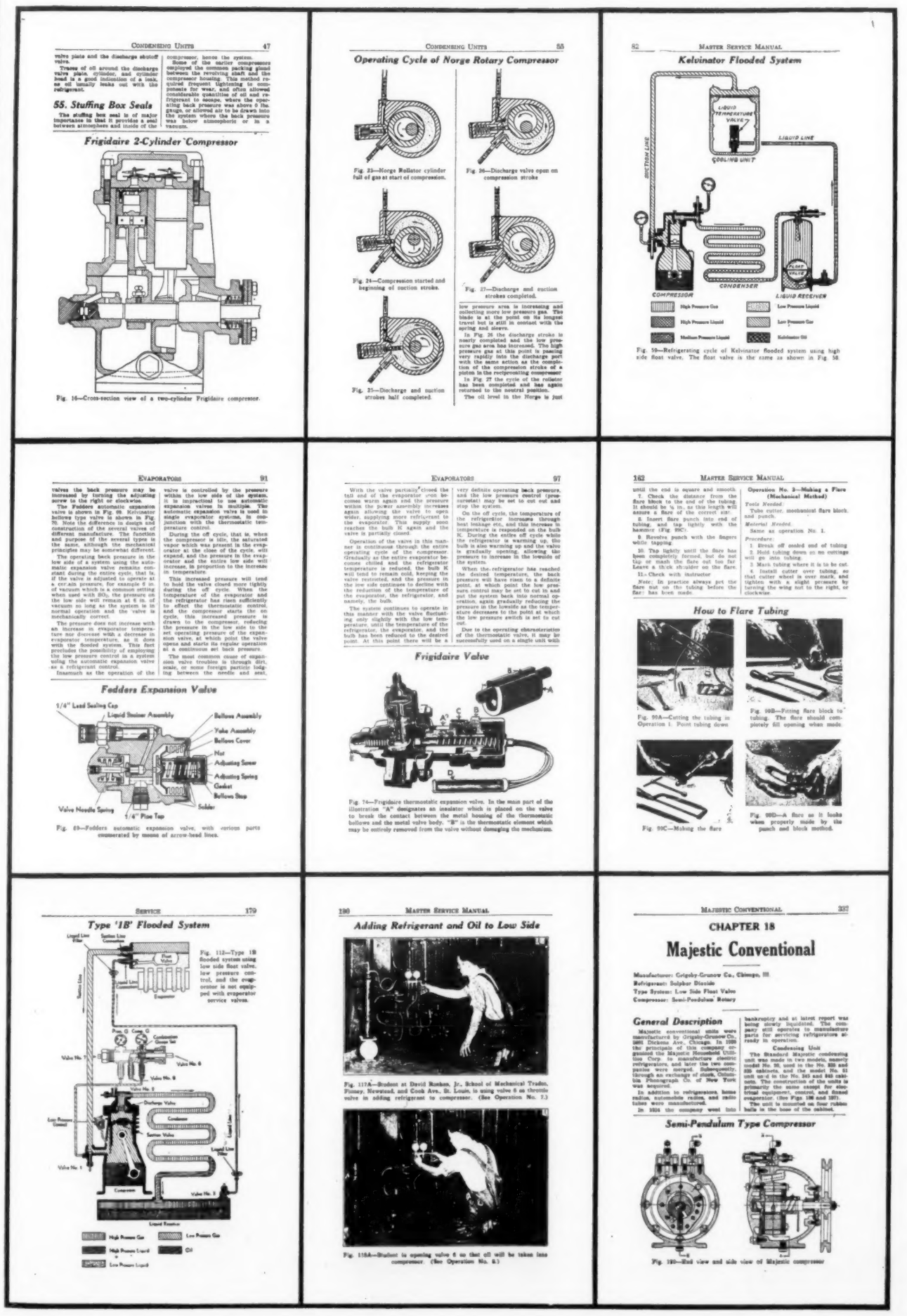
Condensed, clearly written instructions for the installation and servicing of all the fundamental types of household electric refrigerators now on the market



CONDENSING UNITS 47

valve plate and the discharge shutoff valve.

Traces of oil around the discharge valve plate, cylinder, and cylinder head is a good indication of a leak, as oil usually leaks out with the refrigerant.

55. Stuffing Box Seals

The stuffing box seal is of major importance in that it provides a seal between atmosphere and inside of the compressor, hence the system.

Some of the earlier compressors employed the common packing gland between the revolving shaft and the compressor housing. This method required frequent tightening to compensate for wear, and often allowed considerable quantities of oil and refrigerant to escape, where the operating back pressure was above 0 lbs. gauge, or allowed air to be drawn into the system where the back pressure was below atmospheric or in a vacuum.

Frigidaire 2-Cylinder Compressor

Fig. 16—Cross-section view of a two-cylinder Frigidaire compressor.

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Operating Cycle of Norge Rotary Compressor

Fig. 23—Norge Rollator cylinder full of gas at start of compression.

Fig. 24—Compression started and beginning of suction stroke.

Fig. 25—Discharge and suction strokes half completed.

Fig. 26—Discharge valve open on compression stroke

Fig. 27—Discharge and suction strokes completed.

low pressure area is increasing and collecting more low pressure gas. The blade is at the point on its longest travel but is still in contact with the spring and sleeve.

In Fig. 26 the discharge stroke is nearly completed and the low pressure gas area has increased. The high pressure gas at this point is passing very rapidly into the discharge port with the same action as the completion of the compression stroke of a piston in the reciprocating compressor.

In Fig. 27 the cycle of the rollator has been completed and has again returned to the neutral position.

The oil level in the Norge is just

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Kelvinator Flooded System

Fig. 59—Refrigerating cycle of Kelvinator flooded system using high side float valve. The float valve is the same as shown in Fig. 58.

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valves the back pressure may be increased by turning the adjusting screw to the right or clockwise.

The Fedders automatic expansion valve is shown in Fig. 69. Kelvinator bellows type valve is shown in Fig. 70. Note the difference in design and construction of the several valves of different manufacture. The function and purpose of the several types is the same, although the mechanical principles may be somewhat different.

The operating back pressure in the low side of a system using the automatic expansion valve remains constant during the entire cycle, that is, if the valve is adjusted to operate at a certain pressure, for example 6 in. of vacuum which is a common setting when used with SO_2, the pressure on the low side will remain at 6 in. of vacuum so long as the system is in normal operation and the valve is mechanically correct.

The pressure does not increase with an increase in evaporator temperature nor decrease with a decrease in evaporator temperature, as it does with the flooded system. This fact precludes the possibility of employing the low pressure control in a system using the automatic expansion valve as a refrigerant control.

Inasmuch as the operation of the valve is controlled by the pressure within the low side of the system, it is impractical to use automatic expansion valves in multiple. The automatic expansion valve is used in single evaporator systems, in conjunction with the thermostatic temperature control.

During the off cycle, that is, when the compressor is idle, the saturated vapor which was present in the evaporator at the close of the cycle, will expand, and the pressure in the evaporator and the entire low side will increase, in proportion to the increase in temperature.

This increased pressure will tend to hold the valve closed more tightly during the off cycle. When the temperature of the evaporator and the refrigerator has risen sufficiently to effect the thermostatic control, and the compressor starts the on cycle, this increased pressure is drawn to the compressor, reducing the pressure in the low side to the set operating pressure of the expansion valve, at which point the valve opens and starts its regular operation at a continuous set back pressure.

The most common cause of expansion valve troubles is through dirt, scale, or some foreign particle lodging between the needle and seat.

Fedders Expansion Valve

Fig. 69—Fedders automatic expansion valve, with various parts enumerated by means of arrow-head lines.

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With the valve partially closed the tail end of the evaporator coil becomes warm again and the pressure within the power assembly increases again allowing the valve to open wider, supplying more refrigerant to the evaporator. This supply soon reaches the bulb K again and the valve is partially closed.

Operation of the valve in this manner is continuous through the entire operating cycle of the compressor. Gradually as the entire evaporator becomes chilled and the refrigerator temperature is reduced, the bulb K will tend to remain cold, keeping the valve restricted, and the pressure in the low side continues to decline with the reduction of the temperature of the evaporator, the refrigerator, and namely, the bulb.

The system continues to operate in this manner with the valve fluctuating only slightly with the low temperature, until the temperature of the refrigerator, the evaporator, and the bulb has been reduced to the desired point. At this point there will be a very definite operating back pressure, and the low pressure control (pressuretat) may be set to cut out and stop the system.

On the off cycle, the temperature of the refrigerator increases through heat leakage etc., and this increase in temperature is responded on the bulb K. During the entire off cycle while the refrigerator is warming up, the bulb is also warming up and the valve is gradually opening, allowing the pressure to increase in the lowside of the system.

When the refrigerator has reached the desired temperature, the back pressure will have risen to a definite point, at which point the low pressure control may be set to cut in and put the system back into normal operation, again gradually reducing the pressure in the lowside as the temperature advances to the point at which the low pressure switch is set to cut out.

Due to the operating characteristics of the thermostatic valve, it may be successfully used on a single unit with

Frigidaire Valve

Fig. 74—Frigidaire thermostatic expansion valve. In the main part of the illustration "A" designates an insulator which is placed on the valve to break the contact between the metal housing of the thermostatic bellows and the metal valve body. "B" is the thermostatic element which may be entirely removed from the valve without damaging the mechanism.

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until the end is square and smooth.

7. Check the distance from the flare block to the end of the tubing. It should be ⅛ in., as this length will assure a flare of the correct size.

8. Insert flare punch into end of tubing, and tap lightly with the hammer (Fig. 99C).

9. Revolve punch with the fingers while tapping.

10. Tap lightly until the flare has been completely formed, but do not tap or mash the flare out too far. Leave a thick shoulder on the flare.

11.—Check with instructor

Note: In practice always put the flare nut on the tubing before the flare has been made.

Operation No. 3—Making a Flare (Mechanical Method)

Tools Needed:

Tube cutter, mechanical flare block and punch.

Material Needed.

Same as operation No. 1.

Procedure:

1. Break off sealed end of tubing

2. Hold tubing down on an cuttings will go into tubing.

3. Mark tubing where it is to be cut.

4. Install cutter over tubing, so that cutter wheel is over mark, and tighten with a slight pressure by turning the wing nut to the right, or clockwise.

How to Flare Tubing

Fig. 99A—Cutting the tubing in Operation 1. Point tubing down

Fig. 99B—Fitting flare block to tubing. The flare should completely fill opening when made.

Fig. 99C—Making the flare

Fig. 99D—A flare as it looks when properly made by the punch and block method.

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Type 'IB' Flooded System

Fig. 112—Type 1B flooded system using low side float valve, low pressure control, and the evaporator is not equipped with evaporator service valves.

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Adding Refrigerant and Oil to Low Side

Fig. 118A—Student at David Ranken, Jr., School of Mechanical Trades, Finney, Newstead, and Cook Ave., St. Louis, is using valve 6 as throttle valve in adding refrigerant to compressor. (See Operation No. 7.)

Fig. 118A—Student is opening valve 6 so that oil will be taken into compressor. (See Operation No. 8.)

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CHAPTER 18

Majestic Conventional

Manufacturer: Grigsby-Grunow Co., Chicago, Ill.
Refrigerant: Sulphur Dioxide
Type System: Low Side Float Valve
Compressor: Semi-Pendulum Rotary

General Description

Majestic conventional units were manufactured by Grigsby-Grunow Co., 5801 Dickens Ave., Chicago. In 1930 the principals of this company organized the Majestic Household Utilities Corp. to manufacture electric refrigerators, and later the two companies were merged. Subsequently, through an exchange of stock, Columbia Phonograph Co. of New York was acquired.

In addition to refrigerators, home radios, automobile radios, and radio tubes were manufactured.

In 1934 the company went into bankruptcy and at latest report was being slowly liquidated. The company still operates to manufacture parts for servicing refrigerators already in operation.

Condensing Unit

The Standard Majestic condensing unit was made in two models, namely model No. 50, used in the No. 830 and 835 cabinets, and the model No. 51 unit used in the No. 845 and 846 cabinets. The construction of the units is primarily the same except for electrical equipment, control, and finned evaporator. (See Figs. 196 and 197).

The unit is mounted on four rubber bolts in the base of the cabinet.

Semi-Pendulum Type Compressor

Fig. 120—End view and side view of Majestic compressor

The specimen pages reproduced in miniature at the left indicate the variety of information which the Master Service Manual contains, and show a few of the detailed illustrations which make it so easy to understand

An index of service complaints adds to the usefulness of the Manual—it is easy to find the remedy for any particular complaint

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Submerged Condenser

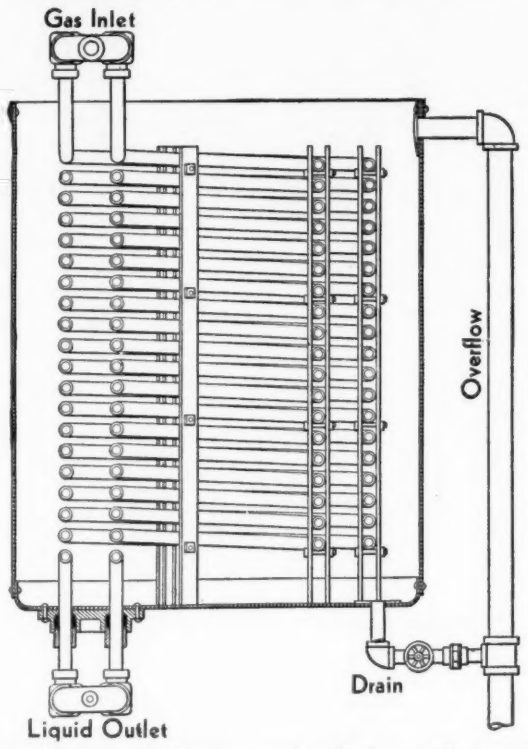


Fig. 43—Submerged-type condenser, used only in small-capacity systems.

The Refrigeration Engineer's Manual

By S. L. Potts

Many Types of Condensers Used In Refrigeration Plants

Chapter 6—Refrigeration Condensers

Condenser for a refrigerating plant is the piece of apparatus in which the hot refrigerating gases are cooled to the condensing point (which is the same temperature as the boiling point for the same pressure) and restored to the liquid state by the removal of all the superheat, all the latent heat, and usually some of the sensible heat of the liquid.

This cooling is brought about by bringing the hot gases and liquid into intimate contact with some lower temperature medium such as cold metal surfaces cooled by water or air under which conditions the heat will flow out of the refrigerating gases and liquid to the cooling medium (metals, water, and air).

As the gases come from the compressor in the compression system, or from the generator in the absorption system, they are usually highly superheated. This superheat must be removed first by reducing the refrigerating gases to the saturated condition under the pressure at which the gases exist in the condenser, (head pressure). The latent heat is next removed and as this absorption progresses, condensation takes place.

If the liquid is still subjected to further cooling its temperature will be lowered to a temperature equal to or slightly above the temperatures of the cooling medium, depending on the time that cooling is allowed to take place. If long enough the temperature will become the same as the cooling medium.

The condenser is one of the most vital parts of any refrigerating plant and it determines to a great degree the cost of the refrigeration. It should be selected with great care and good judgment. The cost of the power required to produce the condensing pressure varies directly with the head pressure if other things remain constant. The higher the head pressure the greater the power required for the same output.

The function produced by this condenser is the same as that by the steam engine condenser, the only difference is in the temperature and the pressures at which condensation takes place. The refrigerating gases are condensed at high temperature and pressures, while the steam engine produces the lowest temperatures and pressures possible.

Condenser Construction

A condenser must be a closed vessel or a system of pipes sealed tight to prevent the escape of the refrigerating gases to the atmosphere. The condenser must be made of some good heat conducting material so as to transmit the heat in large quantities and rapidly.

Copper is a good heat conductor but does not have the required strength to hold some of the high pressure gases. Copper is affected chemically by some refrigerants which prohibits its use. Steel and iron make good condensers. The rate of heat transfer is fairly good, the strength is high, and it is not affected by most refrigerants.

It is moderate in cost and easily obtainable in most forms desired. Steel being high in tensile strength enables us to use thin shells and thin walled pipe to bring the gases and cooling medium into very close contact with the actual cooling mediums (water and air) and thus produce quick and efficient cooling results.

Condenser Selection

The factors most important in the selection of a condenser best adapted for use in any plant might be listed under the following heads. All these factors must be carefully weighed before any selection can be made with assurance of satisfactory service. Expert advice should be sought to assist in this selection.

1. Condenser capacity.
2. Space available and the location of the space.
3. Quantity of water available for condensing.
4. Quality of the water available for condensing. Clean or dirty, containing scale or not.
5. Cost of the power required to pump water.
6. Temperature of the condensing water at the time of the maximum output of the plant.
7. Facilities for cleaning condenser.
8. Cost of the unit of the desired capacity.

Condenser Classification

1. Submerged type.
2. Atmospheric type.
3. Atmospheric type bleeder or flooded.
4. Double pipe type.
5. Double pipe type bleeder or flooded.
6. Shell and tube. Horizontal.
7. Shell and tube. Vertical.

Submerged-Type Condenser

Fig. 43 is a submerged-type condenser. It consists of one, two, or more pipe coils that contain the refrigerating gases at head pressure. The coils are contained in a tank made water tight. The tank may be open at top or sealed with cover, depending on water service used. The cold water enters the bottom of tank and fills it to overflow level. The warm water leaves through overflow. This type condenser requires a generous water supply for operation and is used only in units of small capacity.

Atmospheric Type

Atmospheric type construction consists of a number of lengths of straight pipe connected together in series with return bends and built up in vertical rows of tubes known as sections or stands. This condenser must be placed on a flat roof of a building or placed on high stand in an open place where there is ample air circulating at all times.

Usually as many stands as are required for the plant capacity are placed side by side. Each stand may consist of 6 to 20 pipes vertical, 12 is about the average. Each stand is connected to the pump discharge header and liquid line header. Each stand is connected with valves and union connections so that any stand may be cut in or cut out of service without shutting the plant down.

This gives a very flexible condensing unit as the number of stands in service can be made to suit the demands of the plant. Repairs may be made on any stand of this condensing unit while the others are in use. The hot gases enter the stand from the gas inlet header through valves and flows through the pipes in succession where cooling and condensing takes place.

The liquid condensate flows from the condenser through valves to the liquid header at the bottom and from there to the receiver. Sufficient space must be allowed between each stand to allow ample circulation of air, and to permit men to work on any stand for cleaning and repair.

This condenser has a small 'V' shaped water trough placed over each stand. Small notches cut into the top of this trough allow a leak of water to trickle down over the pipes in each stand, just enough to keep the pipes wet on the outside and cause evaporation. This evaporation of moisture on the outside by the heat of the gases inside removes large quantities of heat from the gases. The quantity of water used on the outside is small.

Pipe used in this condenser is 1½ inch and 2 inch. The most common is 2 inch. The efficiency and capacity of this condenser depends on the temperature of the air circulating over and between the pipe coils, and the relative humidity of the air. The colder the air, the greater the capacity. The lower the relative humidity of the air, the greater the capacity. A purge valve is placed at the highest point on the gas inlet header to remove the non-condensible gases from the condenser.

Advantages and Disadvantages

Advantages and disadvantages of atmospheric type. These condensers are always built up with standard lengths of straight pipe. This makes

(*Concluded on Page 17, Column 1*)

4-Section Atmospheric Condenser

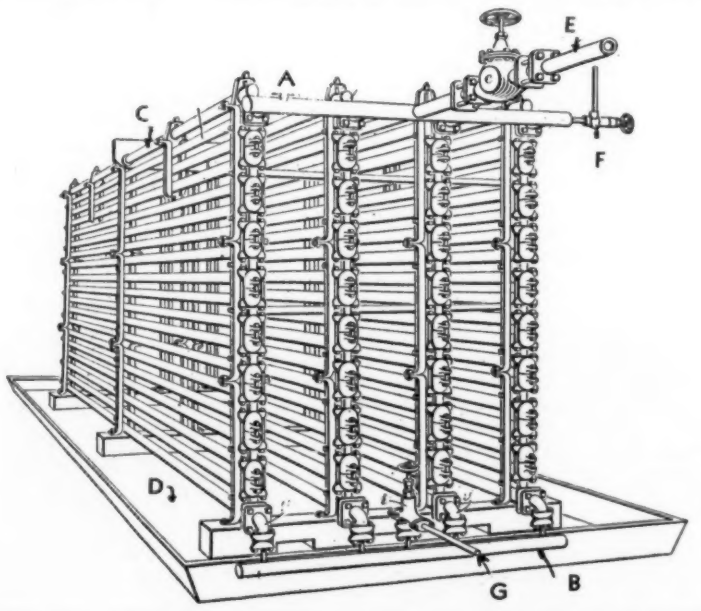


Fig. 44—Atmospheric condenser. See description on page 17.

Condenser with Super-Heater Coils & Liquid Cooler

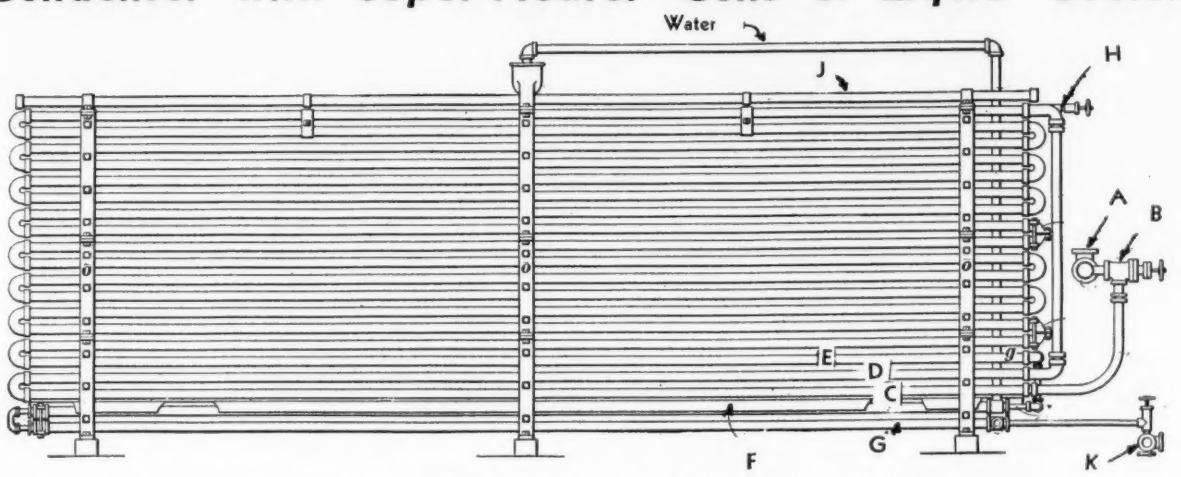


Fig. 45—Atmospheric-type condenser with super-heater coils and a liquid cooler.

Combinations Made of Atmospheric Type

(*Concluded from Page 16, Column 5*)

repairs easy and cheap. Cleaning may be done easily. They occupy a space on the roof that cannot be used for any other purpose.

The condensing medium is cheap and abundant, and in most seasons the air is cool enough to be efficient. These condensers can be made to suit any special service called for because they can be changed over easily. This type condenser is used very extensively for both compression and absorption systems.

Capacity of atmospheric type. Condensers of this type are built with 25 square feet per ton of refrigeration for the standard type to about six square feet per ton for the flooded type. This is figured on the outside pipe surface.

If the air and water temperatures run high in the summer time at the maximum output of plant, 30 square feet of pipe per ton of refrigeration might give the desired results. About 1½ to 2 gallons of water per minute per ton of refrigeration is required for usual conditions of operation.

If the water used is from a cooling tower or pond and the temperature is high, three gallons per minute per ton of refrigeration might be required. If there is a good breeze blowing, less condensing water will be required. If the air is very high in humidity, more water will be required.

Fig. 44 shows an atmospheric condenser composed of four sections with 18 pipes in each section. The gas inlet header is shown at A. The liquid header is shown at B. Each section is connected to the gas and liquid header by valves so that each section can be cut in or out as desired. The water trough is shown at C. The water trickles out of this trough and down over the pipes. Any water that does not evaporate is caught in the basin at D or is drained away to a catch basin to be cooled so that it can be used over again.

Use of Liquid Coolers

Liquid coolers are frequently added to this type of condenser. They are usually two or more coils at the bottom of the condenser so connected that the liquid (condensate) is cooled to the same temperature as the cooling water used. Sometimes this cooler takes the form of a double tube condenser for a couple of coils at the bottom of the condenser. The cooling water flows through the liquid cooler before it goes to the troughs at the top of condenser.

In Fig. 45 is shown an atmospheric type condenser with superheater coils and a liquid cooler. The superheated gas from the compressor enters the header at A passes through valve B to the lower coils C and D where the superheat is removed. Sometimes these coils are arranged so that they are covered by the waste water that lays in the trough. From D the saturated gas rises to the top of the condenser and flows down to E where it should be all condensed to liquid. The liquid is taken from E to the coils F and G the outer tubes of the double tube condenser where the liquid is sub-cooled to some temperature below the boiling point at the condenser pressure. The purge valve is shown at H and the water trough at J. The liquid header at K.

Bleeders are always attached to the flooded type condensers to increase the rate of flow of the condensate to the liquid lines and thus keep most of the coils in the condenser free of liquid for the condensation of the remaining gases. This will increase the efficiency of the condenser.

Flooded type with counter-flow principle can be used in the atmospheric type of condensers with great advantage. The hot gases are led into the bottom coils of the condenser from the header instead of the top as before. The coils are arranged in vertical stands and water trickles over the outside of the pipes as before.

Bleeders must be arranged for this type of condenser and the height of the liquid in the lower coils kept within limits. A gauge glass must be provided to show the liquid level. The great advantage of this counter-flow principle is that the hot gases meet the hottest water, and the coldest gases meet the coldest water thus giving the greatest difference of temperature at all places in the condenser. Very satisfactory results are claimed in this method.

Semi-Flooded & Partly Counter-Flow

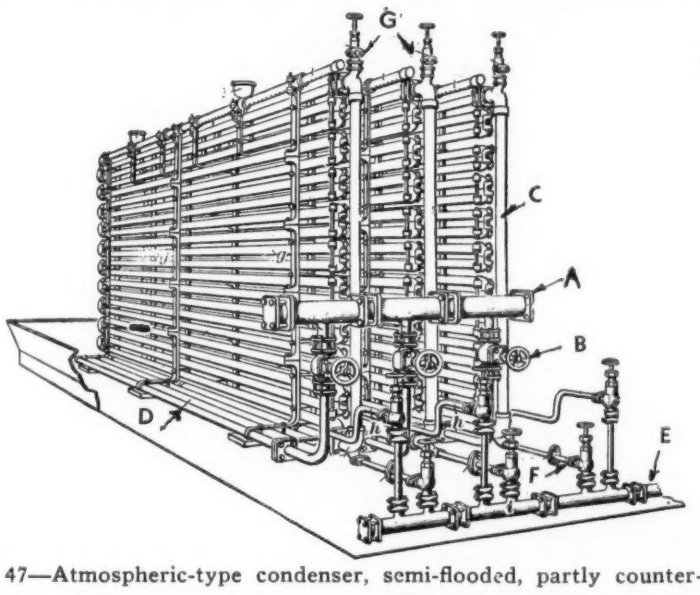
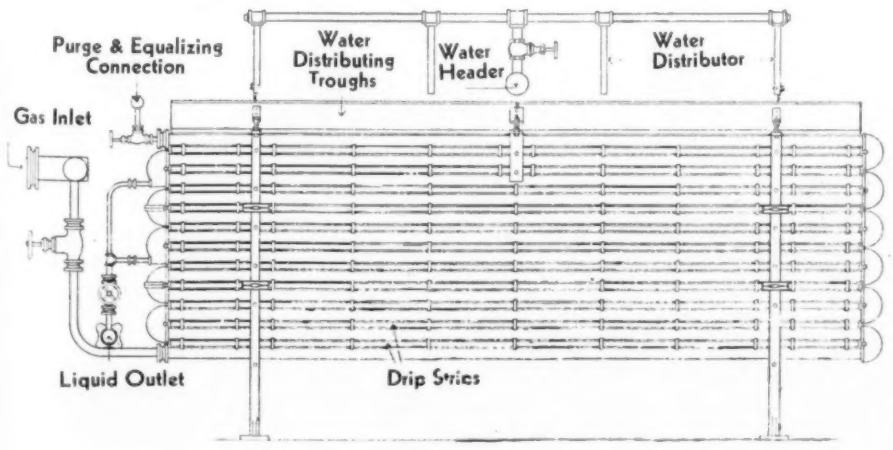


Fig. 47—Atmospheric-type condenser, semi-flooded, partly counter-flow.

Atmospheric Type with Bleeders



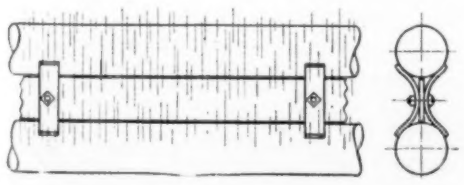


Fig. 46—Above: Atmospheric-type condenser with bleeders, and arranged for counter flow of gases. Left: Enlarged view of pipes showing strips between to control water drip.

In Fig. 46 is shown an atmospheric type condenser with bleeders, and arranged for counter flow of gases, that is, the gas and water flow in opposite directions. The hottest super heated gases are cooled by the warmest water at the botton. The ammonia condensate (liquid) is cooled by the coldest water passing over the top tubes.

The hot gases from the compressor enter the condenser at gas inlet and flow through the lowest pipes in the stand, and from there up to the top. Some of the gas will condense in the lower pipes of the stand but when the condensate reaches the first bleeder it is drained off to the liquid outlet. At the top of the condenser is a purge valve and a header that can be connected to the suction side of the compressor to pump out the condenser. In all other respects the condenser is the same as the standard atmospheric type condenser. The size of pipe used is two inches, galvanized outside only.

Semi-flooded and counter-flow. Another modification of this condenser is to make it partly flooded. This is done by having the gases enter the bottom of the condenser and flow counter-flow for three or four coils and then pass to the top of the condenser through a by-pass.

From there on the flow is by gravity through the coils and in the same direction as the cooling water on the outside. In some cases the lower coils lay horizontal side by side for three or four coils. These horizontal coils are flooded in the cooling water trough by collecting the cooling water deep enough to cover them.

It has been determined that a superheated gas does not condense readily even when brought into intimate contact with cold surfaces. If this same gas is brought into contact with its liquid at the same pressure, the gas will readily become saturated giving up its super-heat, and in the saturated condition can be much more readily condensed.

The rate of heat transfer through wetted surfaces is much greater than through dry hot surfaces. This may account for the great increase in capacity claimed for flooded type condensers.

In Fig. 47 is shown an atmospheric type condenser which is semi-flooded and partly counter-flow. The balance of the condenser is the same as the standard atmospheric condenser. The hot gases enter through the header at A and the stop valve at B to the lower coils that lay submerged in the waste water held in the catch basin. In these lower coils, the superheat is removed and the gas is reduced to the saturated condition. The saturated gas rises through the by-pass C to the top of the stand where it flows down in the same direction as the cooling water. The condensate collects in the lower coils D, D, at the bottom and flows from there to the liquid header E through the valves F. Purge valves are placed at G at the top of each of the by-pass lines C. Each of the three vertical sections shown is the same.

Questions

Units Manufactured

No. 2710 (Distributor, Pennsylvania)—"We would like to have a list of all of the popular refrigerator manufacturers and the number of units manufactured and sold by each in 1935.

"If you can send this information promptly, it will be appreciated; but if by any chance you cannot furnish it, please advise us where we may be able to secure it."

Answer: Manufacturers of household electric refrigerators were published on pages 235 and 248 of the 1935 REFRIGERATION AND AIR CONDITIONING DIRECTORY.

With regard to the number of refrigerators manufactured and sold by the individual manufacturers in 1935, we regret that we cannot furnish you with these figures as the manufacturers do not make them public.

However, as you have probably noted, an estimate of sales of household refrigerators during 1935 was published in the Feb. 5 issue of ELECTRIC REFRIGERATION NEWS.

Glass Sealing

No. 2711 (Dealer, New York)—"We enclose herewith a check for $3 for which kindly send us the REFRIGERATION DIRECTORY.

"Kindly give us the names of manufacturers of sealing material for use on glass in refrigerated display cases."

Answer: Manufacturers of glass sealing cement for use on glass in a refrigerated display case are as follows:

American Hard Rubber Co.
11 Mercer St., New York City.
Maas & Waldstein Co.
439 Riverside Ave., Newark, N. J.
Miller Rubber Products Co.
S. High St., Akron, Ohio.

Chest-Type Sales

No. 2712 (Public Utility, New York)—"We are interested in learning the number of T. V. A. electric refrigerators sold in the United States to date, or the latest date available."

Answer: We wrote to the Electric Home and Farm Authority in Washington, D. C., for this information, and are quoting their answer as follows:

"Judging from the specific nature of the question asked and also from other inquiries which I have received both here and in the field, I believe he wants to know the number of chest-type refrigerators which have been distributed, and not the number of refrigerators financed by this organization. There appears to be an ever increasing interest on the part of utility companies to promote the sale of appliances which will be particularly effective in raising the consumption of minimum bill customers. As you know, the chest refrigerator has been used for such purposes in many instances. Frankly, I do not know how many of these refrigerators have been sold."

Harry Alter Co. Opens Branch Jobbing House In New York City

CHICAGO—Two new branches, in New York City and Chicago, have recently been opened by The Harry Alter Co., manufacturer and jobber of parts and accessories for domestic and commercial refrigeration with main offices here.

To cover eastern states territory, a New York City branch at 161 Grand St. has been established under the management of George Munzer. At Chicago, a southside branch, recently opened at 7821 Stony Island Ave., and headed by H. Spivak, completes a chain of four warehouses in Chicago for the company.

Appointment of Charles Cappel as director of all sales in Chicago has also been reported. Mr. Cappel was at one time manager of the refrigeration service department of Stover Co., Frigidaire distributor, and later manager of the refrigeration department of General Household Utilities Co.

Richmond Jobber Moves; Sells Service Business

RICHMOND, Va. — Refrigeration Supply Co., distributor and jobber of refrigeration replacement parts, has moved from 2400 Chamberlayne Ave. to larger quarters at 1647 W. Broad St. here.

Because of the rules recently enacted by Refrigeration Supplies and Parts Manufacturers Association, and National Refrigeration Supplies Jobbers Association, Refrigeration Supply Co. has turned its service work over to General Refrigeration Service Co.

Binder Moves to Larger Quarters in Newark

NEWARK—T. W. Binder Co., wholesale distributor of refrigeration and air-conditioning parts and supplies moved to larger quarters at 29 S. Orange Ave. here Jan. 15.

This company will now operate on a strictly wholesale basis, states Mr. Binder, who recently sold his service business to qualify as a jobber under proposed definition of National Refrigeration Supply Jobbers Association.

Dessau Studies European Refrigeration Market

NEW YORK CITY—A. Dessau, president of Melchior, Armstrong, Dessau Co., refrigeration supplies distributor, has sailed for Europe, where he will study electric refrigeration methods in France, England, and the Scandinavian countries.

Letters from Service Men

News too Worn from Use When He Gets It

Refrigerating Equipment Corp.
927-31 North Meridian St.
Indianapolis, Ind.

Editor:

I would like to obtain one of the MASTER SERVICE MANUALS, written by Mr. Newcum.

Your wonderful magazine is received weekly at this office, but by the time it gets to me, it is generally pretty well worn, so I would like to subscribe for the NEWS also.

I gather from your February 5th issue that for the sum of $5.00, I can get the MASTER SERVICE MANUAL and one year of the NEWS. If this is correct, please let me know and I will forward the "fin." If this is not right please advise me what sum of money will be necessary to obtain what I both want and need.

Thanking you for an early reply, and wishing Mr. Taubeneck every success on his trip around the world, I am

J. M. BROWN,
Service Dispatcher.

Attached find check for $5.00 for MASTER SERVICE MANUAL and copy of REFRIGERATION AND AIR CONDITIONING SPECIFICATIONS (when off press). Please enter my name on your catalog mailing list. We do commercial service work.—Wilmer C. Rehbein, W. C. Rehbein Co., 1426 N. Drew St., Appleton, Wis.

On or about Jan. 15 I sent to above address P. O. M. O. for one year subscription and REFRIGERATION SERVICE MANUAL. I receive REFRIGERATION NEWS regular, but received no MANUAL or information about same. Kindly register my name on your Catalogue mailing list.—James Reilly, 370 York St., Jersey City, N. J.

Classified

RATES: Fifty words or less, one insertion $2.00, additional words four cents each. Three insertions $5.00, additional words ten cents each.

PAYMENT in advance is required for advertising in this column.

REPLIES to advertisements with Box No. should be addressed to Electric Refrigeration News, 5229 Cass Ave., Detroit, Mich.

POSITIONS AVAILABLE

WANTED: Salesman to cover Northern New Jersey territory on refrigeration and take charge of Refrigeration Department. Box 780, Electric Refrigeration News.

AIR CONDITIONING ENGINEER. For the right type of man who has a thorough practical experience specifying and installing air conditioning equipment for nationally known manufacturers, a most interesting and remunerative position. Must be willing to work in New York City. Give all experience and references in first letter. Box 772, Electric Refrigeration News.

WANTED: By large refrigerator hardware manufacturer young sales engineer for hardware designing and engineering. State education, experience in first letter. Excellent opportunity. Box 770, Electric Refrigeration News.

SALES ENGINEER WANTED. Prominent manufacturer of automatic control equipment has several openings for sales engineers. Previous University training or experience in air conditioning and heating, and an acquaintanceship with architects and engineers is essential. Box 774, Electric Refrigeration News.

WANTED: Refrigeration Engineer experienced in the use of various refrigerants and designs of compressors for domestic refrigeration. Technical training not necessary but preferable. In answering this ad state schooling, experience, and companies served. Address T. J. Scofield, The Sparks-Withington Co., Jackson, Mich.

POSITIONS WANTED

A-1 REFRIGERATION service and installation man, thoroughly experienced and familiar with all types of commercial and domestic equipment also air-conditioning wishes to take over service department on salary or contract basis. Will locate anywhere. Box 778, Electric Refrigeration News.

YOUNG MAN 23 years old, single, graduated from the Utilities Engineering Institute with a rating of 99%, desires position as a refrigeration service man. Ambitious, conscientious, willing worker. Good character, does not drink nor smoke. Resides in New York City but will move anywhere. Box 779, Electric Refrigeration News.

FRANCHISE AVAILABLE

WANTED: Dealers and Distributors of our line of refrigerator display cases, cooling rooms and refrigerators. Interested in securing those engaged in selling commercial refrigeration. H. Ehrlich & Sons Mfg. Co., St. Joseph, Mo.

EQUIPMENT FOR SALE

NEW six hole double ice cream cabinets sacrifice price only $33.00. Special 10% discount in lots of 2 or more. Cabinets are in original crates. Direct expansion type built-in coils. Stainless steel tops. Well insulated. Send for Refrigeration Bargain list. Pioneer Refrigeration Equipment, 33 Warren St., New York City.

ISOBUTANE. We offer purest and dryest Isobutane for the most exacting scientific purposes; in your 80 lb. cylinders at $.75, in our 120 lb. cylinders, $.70, in small lots at $1.00 per pound. The Standard Refrigeration Co. of Pittsburgh, 1148 Dohrman St., McKees Rocks, Pa.

NEW WAUKESHA Refrigeration at 70% discount from factory list price: Waukesha gasoline powered refrigerator, Waukesha gasoline powered ice maker, Waukesha gasoline powered milk cooler. Post Office Box 823, Enid, Oklahoma.

BRAND NEW PARTS. Manufacturers' close outs—limited quantities. American Radiator expansion valves $1.95, thermostatic expansion valves $3.95, Mullins evaporator complete with 3 trays, etc., $5.95, automatic door light complete, 59¢. Write for quotations on any nationally advertised parts. Lowest prices guaranteed. Federal Refrigerator Corp., 57 East 25th St., New York.

NEW, single and twin cylinder methyl compressors, especially adaptable, domestic and small commercial installations; condensers, receiver valves, pulleys, fans; motors, ⅛ to ⅓ H.P.; fittings, expansion valves, Bristol recording instruments, etc. All new merchandise in original containers. Will make prices attractive for quick disposal. Box 775, Electric Refrigeration News.

DEALERS! We have 1500 used electric and gas refrigerators of nationally known makes, at real low prices. Frigidaire, Kelvinator and Norge water and air cooled domestic and commercial compressors up to 2 H.P. Special—Kelvinator and S Model Zerozone Compressors complete, $15.00. Write for information. Macklam Refrigerator Sales Corp., 220 West Huron Street, Chicago.

HERMETIC UNITS REPAIRED

GENERAL ELECTRIC SEALED UNITS—repaired, rebuilt, exchanged. Guaranteed service. Our modern shop is especially equipped to efficiently repair these units. prices low and workmanship the best. Give model number when writing. Immediate service. Rex Refrigeration Service, Inc., 446 East 79th St., Chicago.

HERMETIC UNITS rebuilt or exchanged: Majestic all models $17.50, Servel $22.50, G.E. $25.00 and $32.50, other standard makes $19.50. Majestic Hermetic Dome assembly $12.50, Majestic standard compressors $6.50, thermostat or cold control exchange $2.50. Other prices on request. Six months' guarantee. Wholesale only. Refrigeration Products, Inc., 122 W. Illinois St., Chicago, Ill.

MAJESTIC UNITS

TIRED OF BEING FOOLED—we really fix your Majestic Units, make them freeze faster and run less than when they were new, $17.50 to $37.50, with a two-year written guarantee. Send your units to Ft. Smith and get them fixed right. Peno Service Company, Ft. Smith, Ark.

REPAIRS

THERMOSTATS REBUILT. Replacement parts bought and sold. Send me (transportation prepaid) five defective or obsolete thermostats. Will repair and return one free of charge for remaining four or repair charges: Ranco, Tag, Cutler-Hammer, (household) $2.25; B & B $3.00. Flushing 9-2206. S. F. Harriss, 137-66 Holly Ave., Flushing, N. Y.

ARTIFICIAL FOOD DISPLAYS

ARTIFICIAL FOOD DISPLAYS at prices you can afford to pay. A realistic food set of meats, fruits and vegetables for every make refrigerator. Complete sets from $3.00 to $6.00. Write your source of refrigerator supply or direct to Cincinnati Doll Co., 311-313 E. Twelfth St., Cincinnati, Ohio.

Service Methods

Pine Bluff Pioneer Started Servicing Frigidaires Back in 1923

Refrigeration Service
Sales, Engineering, and Installation
Pine Bluff, Ark.

Mr. Cockrell:

As stated in my previous letter I have been in the refrigeration business here since 1923 in which year we installed the first Frigidaire unit in this city. At that time I was working for the Pine City Electric Co. who had seven counties in South East Arkansas on Frigidaire. By 1928 they had about 10 sub-dealers with a like number of service men. It became my duty to supervise and instruct these service men in the proper handling of their job and I usually made all the commercial installations personally. In 1931 this company went out of business and since then I have been working independent and specializing in commercial installation and service on any make of equipment except that using ammonia as refrigerant.

Handles Frigidaire Work

At the present have the Frigidaire Service, Installation, and Parts contract for this county. My commercial installations of new equipment have been confined to Frigidaire, Kelvinator, Universal, Copeland, and Ice-O-Matic. However, have serviced practically every make of equipment that has ever been installed in Arkansas. During the past two years have made 17 new installations for the Kroger stores in Arkansas of Frigidaire, Universal, and Ice-O-Matic equipment.

As to how I train service men, my experience has been rather sad to relate along this line. I have arrived at the conclusion it is cheaper in the long run to pay a good man already trained a good salary than it is to let a green man work for nothing. I usually go through the winter months with only some part-time help and usually use one or two extra men during the summer months.

Methods of Advertising

As to my methods of securing business I use local newspaper, radio, and telephone directory advertising. This all helps but the way I get the business is to get out among my customers at regular intervals and keep in personal contact with whatever might be of interest to my business.

Household service is handled more or less as one of the necessary evils of the business. I find in the majority of household service one cannot afford to charge enough to break even much less show a profit. I find it takes, in a lot of instances, as long to service a $150 household refrigerator as it does to service a $1,500 commercial job, whereas a $15 repair job on the household box would represent 10 per cent of the initial cost, whereas it would be only 1 per cent of the commercial installation.

Or in other words the amount a customer is willing to pay for repairs is more or less dependent on the initial cost of the equipment and in the above illustration the commercial installation offers a potential profit ten times as large as the household.

I have the necessary equipment in my shop for overhauling most any type or size unit common to this territory, however, I feel safe in saying at least 90 per cent of my work is either installation or service rendered in the user's home or place of business.

Carries Good Stock of Parts

I carry a good line of parts, belts, valves, etc. with me at all times in my service car so I am enabled to do most any sort of minor repair or overhaul right on the job. The customer has been led to believe he is getting the quickest service possible when he calls me and that is what I try to live up to.

Charges Made for Service

My service charges are $1.50 per hour or $1.00 per call where the time required is less than 30 minutes in the city and $1.50 per hour spent on the job and 5¢ per mile each way on all out of town trips. I try to secure all the business on a flat rate that I can as I can usually show a better profit in this manner.

For instance I make a flat charge of $3.00 for labor for changing a flooded type evaporator float valve, whereas the actual labor required in this operation rarely ever takes over 30 minutes, however, the necessary time must be allowed to pump down the unit and the user is always dissatisfied at having to pay a man $1.50 per hour for loafing, but they never kick on the flat rate charge of $3.00.

Am listing on a separate list service calls and installations made during the past month.

This letter is rather lengthy but from yours this is evidently the information you desired to receive. If I can be of further service to you would be glad to do so.

E. R. ARLEDGE.

Service Jobs Done by E. R. Arledge in One Month

Joe Gooey, Pine Bluff—Install one W6G Frigidaire condensing unit connected to 6x8-ft. cooler, 16-ft. counter, 7-ft. grocery box.

S. E. Franklin—Install brushes in ½-hp. Frigidaire motor.

Mrs. Ray West—Adjust temperature control, Frigidaire AP7.

M. P. Ellis—Install expansion valve, Kelvinator household.

Adam Robinson—Install belt and fuse, Frigidaire W-12.

J. W. Hill—Install new Frigidaire compressor on soda fountain.

Food Palace—Install second-hand 10-ft. counter and model N Frigidaire.

Duckett Grocery—Retail control 1-hp. Mayflower condenser.

Mrs. R. P. Robinson—Oil motor, Wayne household cabinet.

G. W. Brown—Oil motor on Frigidaire household Master 835.

Cullen Tarver, Star City, Ark.; Homer Norton, Star City, Ark.—Both Frigidaire 535 Standard models—not freezing due to cold room temperature.

W. I. Payne, Sherrill, Ark.—Frigidaire household Deluxe 1235, adjust defrost mechanism.

Plummer's Florist Shop—Install Frigidaire WX20 evaporator and F1C compressor.

B & B Grocery—Install new switch, Frigidaire model N.

Parkview Apartments—Install new switch and switch lever model N Frigidaire.

Harlow Sanders—Remove water from expansion valve, Kelvinator household 5-cu. ft. cabinet.

Mrs. Simon Bloom—Adjust control and clean motor brushes, Frigidaire M7 household.

Davis Hospital—Install thermostatic expansion valve and add Freon, General Electric commercial unit.

Kroger Grocery & Baking Co., Monticello, Ark.—Move equipment to new location; cooler, counter, and 1½-hp. Universal unit.

Fish Drug Co., Monticello, Ark.—Install belts, model R Frigidaire.

S. E. Franklin—Drain Frigidaire model N to prevent freezing.

Coker & Son, Dewitt, Ark.—Install 10-ft. counter and Frigidaire F2C compressor.

S. L. Gannaway Grocery—Clean out and bake ⅓-hp. compressor and coil in grocery box.

Kroger Grocery & Baking Co., Pine Bluff—Add 4 lbs. methyl chloride to Ice-O-Matic compressor, 1 hp.

Jefferson County Court House—Install pressure regulating valve on Frigidaire water cooler.

Blaser & Craven Market—Overhaul and bake Kelvinator 1-hp. compressor.

B. C. Hart—Install Frigidaire household belt.

A. M. & N. State College—Change expansion valve, add 8 lbs. methyl chloride, and replace belts on Kelvinator 1½-hp. commercial.

Earnest Smith—Repair loose connection on motor terminal box, Kelvinator household.

Fred Ingram—Stop SO_2 leak in Frigidaire ice cream cabinet.

Pine Bluff Market—Adjust controls and expansion valves, Frigidaire.

D. B. Hatcher, Sherrill, Ark.—Frigidaire household, low voltage.

S. N. Goldberg—Replace belt on Frigidaire M7 household unit.

J. H. O'Rear, Warren, Ark.—Replace expansion valve, Frigidaire L5.

Mrs. Hampton, Warren, Ark.—Repair seal leak, Kelvinator household.

Glasgow's, Warren, Ark.—Adjust soda fountain controls, Frigidaire.

V. C. Allen, Warren, Ark.—Replace brushes in Frigidaire household.

S. W. Boardman—Install new door lock springs, Frigidaire.

John Rutherford—Replace belt, Copeland household.

Service Experience

Since the announcement of a "Catalog Mailing Service" a large number of independent service companies have asked to be registered for this service.

Letters have been written to a number of these subscribers asking certain specific questions such as:

How did you happen to get into the service business?

Where did you receive your first training in service work?

What kind of jobs are you called upon to handle?

How do you get new business and how do you estimate your charges?

What kind of tools and equipment do you have in your shop?

Where do you buy your supplies and materials?

In response to these questions some very interesting letters have been received.

It is hoped that the publication of these letters will encourage other service men to tell in detail about their problems and progress. The exchange of experiences should be helpful to all those engaged in refrigeration service work.—Publisher.

Paschal Brothers—Install 10-ft. new counter, overhaul model C Frigidaire compressor, and convert to air cooled instead of water cooled.

Mrs. Clifton Howell—Frigidaire M9, replace door lock spring, new gasket on doors, and adjust control.

Butter Nut Cake Shop—New float valve gasket installed to stop refrigerant leak, Frigidaire.

Mr. B. Hunter—New brush bracket and brushes, Kelvinator household motor.

Grady Drug Co., Grady, Ark.—Repair carbonator motor.

Sunshine Grocery, McGehee, Ark.—Install liquid line filter, Frigidaire model C.

Joe Forts, Lake Village, Ark.—Install discharge valve on Frigidaire AP5 household.

Galloway Drug Store, Lake Village, Ark.—Adjust soda fountain.

Coney Island Grill, Lake Village, Ark.—Add SO_2 to Frigidaire.

Liberto Cafe, Eudora, Ark.—Install new automatic water valve and switch on Frigidaire model N.

Rex Hotel, Eudora, Ark.—Weld loose flywheel, Frigidaire model N.

T. L. Scott, Eudora, Ark.—Repair leaky seal, Kelvinator household.

H. C. Stamper, Pine Bluff—Install 6-ft. counter, Frigidaire F1C.

City Fish & Oyster Co.—Add brine to fish cooler.

O.K. Ice Cream Co.—Add SO_2 to ice cream cabinet.

S. E. Tucker Grocery—Change thermostat to low-pressure control, ⅓-hp. commercial, Kelvinator.

Dr. Johnson—Adjust control, Frigidaire M-12 household.

Mrs. McCurdy—Oil motor and clean brushes, Frigidaire 934.

Kroger Grocery & Baking Co., McGehee, Ark.—Install new expansion valve, add 10 lbs. methyl chloride, and repair leak in radiator of Universal 3-hp. condensing unit.